

THE DENTAL PRACTITIONER

incorporating
THE DENTAL RECORD

VOL. V, NO. 12

AUGUST, 1955

[*Including the official reports of the British Society of Periodontology, the British Society for the Study of Orthodontics, the European Orthodontic Society, the Liverpool and District Odontological Society, the North Staffordshire Society of Dental Surgeons, the Odonto-chirurgical Society of Scotland, and the British Society of Dental Hypnotists*]

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Manuscript should preferably be typewritten with double spacing and wide margins, and the author should keep a copy. Articles and their illustrations become the property of *The Dental Practitioner*, unless authors reserve the right before publication.

Illustrations should be clearly numbered and legends should be written on a separate sheet of paper and not put on the backs of the originals. Each figure should be referred to in the text. Prints are preferred to X-ray negatives and should be on glossy paper. Lettering which is to appear on illustrations is best shown on an overlay or rough sketch. It should not be put on the original.

Tables should be typed on separate pages and each should have a caption which will explain the data without reference to the text.

References to dental literature should be recorded in the text, with the name of the author and the year of publication in parentheses. In the bibliography they should be arranged in alphabetical order in the following form, the abbreviations of periodicals being those adopted in the *World List of Scientific Periodicals* (1952), e.g. :—

SMITH, J. A. K. (1949), *Brit. dent. J.*, **86**, 271.

LEWIS, R. W. B. (1947), *The Jaws and Teeth*, 2nd ed., 471. London: Science Publishing Co.

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THE DENTAL PRACTITIONER

Incorporating the "Dental Record"

Vol. V, No. 12

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EDITORIAL

PROFESSIONAL NEGLIGENCE

IN a newly published book on "Professional Negligence" the author* Mr. J. P. Eddy, Q.C., raises some interesting and pertinent questions for all who work in the health services. When it is realized that in 1948 the payments made by hospitals authorities in compensation of all kinds was only £7500 and that in 1953 it had risen to £153,000, it is not surprising that the professions have become a little disturbed. Although it would appear that a higher standard of care is expected from the professional man in these days, there are many other factors to be taken into consideration in assessing the reasons for this sudden rise in litigation. In his book Eddy gives four factors for this increase: (1) The changed status of the local and teaching hospitals; (2) The payment of hospitals staffs; (3) The Legal Aid system; and (4) A decision of the Court of Appeal under which hospital authorities are responsible for the negligence of their staffs. It would seem that the increased medical litigation is due to a combination of circumstances that have arisen since the National Health Scheme came into being, and are a reflection of the social changes that have taken place in the last ten years. In reading the brilliant judgements cited in the book by such able men as Lord Justice Denning, the mind of the profession may be set at rest.

Although a higher standard of care may now be required, it is only in keeping with the higher standard of medicine generally. A professional man undertakes to exercise a reasonable degree of care and skill. The word "reasonable" must be related to the present state of medical knowledge, and this should be translated as a high standard of care with a competent degree of skill. However, in the words of Lord Justice Denning, "It is so easy to be wise after the event and to condemn as negligence that which was only a misadventure" and again "... it would be wrong and bad law to say that simply because a mishap occurred the hospital and doctors were liable. Indeed it would be disastrous to the community". English justice is still supreme and the professions should have no fear that the dagger of a negligence action will ever strike unworthily.

FEDERATION DENTAIRE INTERNATIONALE

News Letter No. 11 (June, 1955) contains information about the Forty-third Annual Meeting, Denmark, August 14-20, 1955, and includes the final programme.

It also contains information about the Second Panhellenic Odonto-stomatological Congress, Athens, September 25-30, 1955, and includes the provisional programme. Other subjects dealt with include the twelfth International Dental Congress, Rome, September 7-14, 1957; *International Dental Journal*; F.D.I. representation at meetings; report of W.H.O. Consultant Groups on Dental Health; International Association of Dental Students; and news from Member Associations.

* *Professional Negligence*. By J. P. Eddy, Q.C.
London: Stevens & Sons Ltd. 13s. 6d.

ORTHODONTICS IN THE HOSPITAL SERVICE*

By J. D. HOOPER, L.D.S. R.C.S., D.Orth.

IN 1950 the South-West Metropolitan Regional Hospital Board advertised for a Consultant Orthodontist to be appointed to the Bournemouth and East Dorset Group of Hospitals. This was the first time that a Regional Hospital Board had proposed to add an orthodontist to its Consultant Staff. As the author has held this appointment for $4\frac{1}{2}$ years it was thought that an account of the experience thus gained in this hitherto unexplored field of orthodontics would be of some interest to this Society.

It is proposed to deal with the subject under three headings:—

1. A short discussion on the place of Orthodontics in the Health Service generally and with particular reference to the Hospital Service.

2. An account of the events leading up to the appointment of an Orthodontist to the Bournemouth and East Dorset Group and a report of the results so far achieved.

3. A few illustrations of cases to show the type of work undertaken.

ORTHODONTICS IN THE HEALTH SERVICE

To deal with this subject logically one should begin at the beginning and decide first whether orthodontics should be part of the Health Service at all. To put it quite bluntly, is orthodontics merely beauty treatment and if so should the State be expected to pay for it? This is obviously a very uninformed view but it is a charge which might well be levelled at orthodontics and for which we as orthodontists should have a convincing answer. I would concede that a proportion of orthodontics is, to the patient, beauty treatment. Most of us would agree that if teeth were invisible our intake of patients would probably fall considerably. However, I do not think that one should be in any way ashamed of carrying out treatment the purpose of which is to some

extent the improvement of our patients' appearance—rather the reverse. We all know what an amazing change in the appearance of a patient can be brought about by the correction of some of the more severe mal-occlusions. It is quite likely that in such cases the benefit to the patient goes much further than the mere satisfaction of his personal vanity. The impact of that individual on society is altered in a way greatly to his advantage and his subsequent career and his usefulness to society greatly expanded thereby.

But there is much more to orthodontics than the improvement of the patients' appearance. The real answer to this question is quite emphatically that if dentistry is to be a charge on the State then orthodontics must also be. If the State is prepared to pay for the treatment of caries and periodontal disease it must also be prepared to pay for the treatment and prevention of mal-occlusion, since mal-occlusion is always a considerable factor in the production of these conditions and may be a direct exciting cause.

Furthermore, I would say that orthodontics at its best comprises the entire supervision of the dental development of the child and that only the orthodontically trained person is really equipped to carry out this supervision. An eminent American orthodontist during his recent visit over here impressed me by saying that in his view all children were orthodontic patients and should be referred from the orthodontist to the general practitioner and not the other way round. I do not think he meant this to be taken quite literally but I fully appreciated his trend of thought.

It is also relevant to point out that the National Health Service is not called the National Disease Service, and if its object is actively to promote health rather than passively to repair the effects of disease then orthodontics is fully entitled to its place in the organization.

The more difficult question to answer, however, is how orthodontics is to be brought to

* A paper read at the meeting of the British Society for the Study of Orthodontics on March 14, 1955.

the masses of children who really need it. There are three possible channels: namely, the School Dental Service, the General Dental Service, and the Hospital Service. In fact I think each of the three Services has a part to play in the provision of orthodontic treatment. This subject has been reported on at length by the British Dental Association's Committee on Orthodontics and I have nothing new to add to their findings. I agree broadly with the recommendations of this Committee, which were, briefly, that Regional Hospital Boards should appoint Consultants who would advise General Practitioners and School Dental Surgeons on the treatment of their cases and also run clinics to which the more difficult cases could be referred.

Although I am sure that this is the arrangement we should work towards, I have to report that in my experiences as a Hospital Consultant in Orthodontics there are certain practical difficulties. The fact is that a high proportion, indeed probably the majority, of dental practitioners do not like carrying out orthodontic treatment and are only too glad to refer their patients to a consultant for treatment rather than for advice. There seem to be certain reasons for this aversion to orthodontics. Some men have told me that they know nothing about orthodontics and do not feel capable of carrying out any but the most elementary procedures. Others say that they do not really enjoy treating children. The largest group, however, say that they would like to do more orthodontics if they knew more about it, but are not keen to carry out treatment under the Dental Estimates Board. They find it difficult, I think, to carry out a line of treatment which will satisfy the patient and be approved by the Board. They are irritated by the amount of correspondence which is involved, and feel that their clinical freedom is infringed when the Board fails to approve or asks some explanation of their line of treatment. It is not my place to discuss the rights or wrongs of this attitude, but there is no doubt that it exists, and in my view it constitutes a major obstacle to the working of the scheme recommended by the British Dental Association's Committee.

It seems to me that if this scheme is to work two major changes will be necessary. The first is an improvement in the arrangements for carrying out orthodontic treatment under the Dental Estimates Board, which will result in a corresponding improvement in the relationship between the practitioner and the Board. The second change is an alteration in the curriculum of the qualifying examinations which will permit more time being spent by undergraduate students on orthodontics. If this latter change is considered impossible then as an alternative some encouragement should be given to general practitioners to take post-graduate courses in orthodontics. Having been for many years on the teaching staff of the Royal Dental Hospital I have been rather dismayed to find how little practical knowledge in orthodontics has been absorbed by the average student.

At this point I would like to mention that each winter since I came to Bournemouth I have been requested to give a course of lectures on orthodontics for the general practitioner. This request has been duly complied with and the courses have been extremely well attended. The first year there were no less than 26 applications and the course had to be given twice. I think this indicates that a considerable interest in orthodontics exists, and it is an interest which I consider it part of my duties to foster. The result of these courses has been that the number of cases being referred for advice rather than for treatment has increased. The proportion remains rather low, however, and one has the impression that the men who are keen enough to attend a course are the ones who were already doing a fair amount of orthodontics in their practices.

A final point I should like to make on this subject is that cases treated by a general practitioner after receiving advice from a specialist seem to take longer than they should. There are many obvious reasons for this, not least, of course, the possibility that the specialist may not have been entirely infallible in his opinion. But also I think the general practitioner of necessity lacks experience in the hundred and one small time-saving

procedures that are or become second nature to the specialist and which it is almost impossible for him to impart. This lengthening of the treatment time raises the question of whether it is in fact economically advantageous for orthodontics to be carried out by the general practitioner following the advice of the specialist. I do not think that at the present time sufficient experience has been gained to answer this question, but in any case it is a somewhat academic one since it is most unlikely that there will ever be sufficient specialists to carry out all the orthodontic treatment required.

THE ORTHODONTIC CLINIC AT BOURNEMOUTH

The following is an account of how the Orthodontic Clinic at Bournemouth came into being. It is hoped that the recording of these facts may be of some assistance to those in other areas who may be considering the institution of a similar scheme.

To put the matter into perspective it is necessary to go back to the year 1921. In that year a group of Bournemouth dental surgeons formed a Voluntary Dental Clinic. The dental surgeons gave their services free and the patients, as in voluntary hospitals, contributed according to their means. To begin with the Clinic was separate from the local voluntary hospital, but in 1926 it was moved into a building adjoining the Royal Victoria Hospital and became a department of that hospital. In 1932 the private block of the hospital was built and a new Dental Department was included in it. The Department consisted of Surgery, Recovery Room, Waiting Room, and Workshop and was fully equipped to carry out all forms of dentistry. The provision of a Dental Department on such a lavish scale was, I think, extremely advanced and even to-day there are few provincial non-teaching hospitals where such facilities exist. The Department was staffed by eleven Honorary Dental Surgeons and was run full-time as a Voluntary Clinic of the Hospital for both out-patients and for the treatment of dental conditions in in-patients. The Department was run very successfully on these lines until 1948 when the

National Health Service came into effect. This, of course, brought the voluntary principle to an end and the function of the Dental Department as a charitable institution came to an end also. After a period of indecision it was finally decided that the Department would no longer treat out-patients except those referred for specialist treatment, and the number of dental sessions was cut down to those required for this purpose, and for the treatment of dental disease in in-patients.

It will be seen from the foregoing that the Royal Victoria Hospital, Bournemouth, had for a long time been providing a dental service to the inhabitants of the town and it is not so surprising, therefore, that it was eventually requested to provide an Orthodontic Service and thus became, I think, the first non-teaching provincial hospital to do so under the National Health Service Act.

In May, 1949, the Medical Officer of Health for Bournemouth wrote to the Bournemouth and East Dorset Hospital Management Committee asking whether the orthodontic treatment of Bournemouth schoolchildren could be undertaken by the Royal Victoria Hospital. The following month a similar request was made by the Secretary of the Local Executive Council. It is interesting to note that the Hospital Service was thus approached by the two other branches of the Health Service, namely the Local Authority Health Department and the General Dental Service, to provide a specialist service in orthodontics. The request was referred by the Hospital Management Committee to the Western Area Committee of the South West Metropolitan Regional Hospital Board. This Committee referred the matter to its Dental Advisory Committee who advised that a full-time Consultant Orthodontist be appointed. The Regional Board accepted this advice and the post was nationally advertised in January, 1950. The appointment was made in April, 1950, and the Clinic finally opened on Oct. 1, 1950, about eighteen months after the original request had been made.

As the appointment was to a specific Hospital Group with a population of approximately 300,000, it was decided that, to begin

with anyway, only patients residing in the area covered by the Hospital Group would be accepted for treatment. Accordingly a circular letter was sent to all dental surgeons practising in that area advising them of the new facilities available to them. It was stated that patients could be referred either for advice or for treatment, but if for the latter only patients residing in the area could be accepted. I was anxious to limit the area from which I would draw patients for two reasons. Firstly, I did not want the clinic to become completely swamped with patients so that a long waiting list would inevitably be built up. It was thought better to build up the service gradually and to keep it effective over a small area rather than become ineffective over a large one. Secondly, I do not think it is satisfactory to take on patients who have to come long distances for treatment. If a patient is not readily able to attend when required a new factor is introduced which inevitably prolongs the treatment time and reduces the chances of success. Naturally, I have occasionally made exceptions to this rule for children suffering a severe disability and who were otherwise unable to obtain treatment.

The response to the opening of the Clinic was gratifyingly brisk and in a remarkably short time a sufficiently large pool of patients was accumulated to keep the Clinic operating at full pressure. The new service seemed to be appreciated both by the patients and by the dental practitioners. I would particularly like to place on record my appreciation of the extremely co-operative attitude of the dental surgeons in the area. My relationship with them can only be described as cordial, and I am most grateful for the way in which I was made to feel welcome from the very beginning.

On acceptance for treatment it is made clear that the patient remains the patient of the dental surgeon referring the case, and is expected to make regular visits to him for inspections for caries and routine dental care. The patient is referred back to his private dental surgeon or school dental officer for any extractions which may be orthodontically necessary. A full report is sent to the dental

surgeon referring the case when a diagnosis and treatment plan has been made. By these means a good liaison is maintained between the orthodontist and the general practitioner which is obviously to the benefit of all concerned.

The staff of the Orthodontic Department consists of 1 Consultant, 1 Clerk-Attendant, and the equivalent of rather more than 2 Dental Technicians. The Hospital actually employs 4 technicians, but they are also engaged on other work.

All patients are X-rayed as a routine and the X rays are done in the General Dental Department by the Dental Sister assisted by the Chief Technician. The standard of mechanical work and of radiography is outstandingly good. The morale and team-spirit of all members of the unit is excellent and it is, I am sure, on this account that a high output of work is maintained.

In cases where surgical intervention is necessary patients are referred to the surgical specialist, Mr. R. G. Torrens, who has two beds in the hospital and a weekly operating session. My thanks are due to Mr. Torrens for his willing co-operation in the treatment of many cases.

The following are two statistical tables showing the progress of the Clinic and an analysis of its work:—

Table I

	1950-1	1951-2	1952-3	1953-4
New patients for advice	20 approx.	70	116	148
New patients for treatment	581	520	446	519
Attendances	3483	5124	5236	6588
Cases completed	10 approx.	25 approx.	100	154

No. on waiting list: 239

Present waiting period: Approx. 6 months.

Comments on Table I.—

1. The number of patients accepted for treatment was far greater than I had expected to be able to take on. This may have been due

to the fact that my previous experience had been in:—

a. A teaching hospital where delays are inevitable for teaching purposes.

b. A part-time local authority clinic. It would seem that if one is permanently in one place one can get through far more work in the equivalent time.

2. There is an encouraging increase in the number of cases being referred for advice.

In 1954 the number of cases referred for advice comprised 22 per cent of the total number of new cases seen.

3. Cases completed refer only to cases completely written off and no longer in retention or under observation. I do not regard this stage as having been reached in most cases

In the vast majority of cases no harm results from a patient having to wait for this period before receiving treatment. I rely on the dental surgeon referring the case to inform me if there is any special reason for urgency, in which case an early appointment is given. This method seems to work well and I do not, therefore, have to waste time calling up patients off the list, sorting them out into urgent and non-urgent cases—a dreary task—and then putting the majority back on the list.

Table II represents a breakdown of the figures for the year ended Dec. 31, 1952, and was compiled at the request of the Ministry of Health:—

Comments on Table II.—

1. *Under observation* does not include patients who have already had treatment with appliances.

Includes (a) Patients not yet ready for appliances; (b) Not likely to need appliances; (c) Treated by extractions only.

2. *Examined and advised—models only.*—I do not regard it as at all satisfactory to give an opinion without seeing the patient. However, I do give a few consultations in this way to practitioners whose patients for some good reason, usually distance, are unable to attend.

3. The proportion of removable to fixed appliances has risen in my practice since recent improvements in clasp design have made it possible to carry out with removable appliances procedures for which I should previously have used fixed appliances.

Figures have their place in an account of this kind, but unless they are related to actual cases they may well prove misleading. In an attempt to avoid this I think it only right and proper to give some indication of the principles and methods used on cases under treatment at the Clinic.

As far as possible cases are treated according to the principles indicated by recent work on skeletal and muscle patterning. I was fortunate in having a long period of collaboration with Mr. C. F. Ballard, and at an early stage became convinced of the soundness of his views on aetiology and diagnosis. I have

Table II.—TABLE OF STATISTICS OF ORTHODONTIC DEPARTMENT, ROYAL VICTORIA HOSPITAL, FOR THE YEAR ENDED DECEMBER 31, 1952

Completed	No further appointments	25	191
	Still under observation	101	
	Still in retention	65	
Under treatment	With fixed appliances	169	523
	With removable appliances	354	
Under observation	With extractions	158	384
	Without extractions	226	
Examined and advised	Patients seen	140	184
	Models sent by post	44	
Total new patients		568	
Attendances		5024	
Removable appliances fitted		502	
Fixed appliances fitted		172	

until either no further dental development can be expected or, if much active treatment has been done, until all retention appliances have been discarded for a period of up to 18 months. This figure can be expected to rise steeply in the next few years.

4. The waiting list has for some time remained steady at approximately six months.

derived great benefit from treating my cases on the lines indicated by him at that time and in his subsequent published work.

DIAGNOSIS AND TREATMENT

In the present state of knowledge and for practical clinical purposes I believe that the soundest assumptions on which to base a diagnosis and treatment plan are as follows:—

1. The Apical Base.—By this is meant that the dento-alveolar process, though in itself plastic, behaves as though it were built on a rigid base in the mandible and maxilla respectively. These bases bear for any individual a fixed relationship to the size of the teeth and this relationship rarely changes or can be expected to change either with growth or under the influence of orthodontic treatment.

2. The Skeletal Pattern.—The apical bases bear for any given individual a fixed relationship to each other and to the rest of the skull. Again for practical purposes their relationship does not change, nor can it be expected to change either with growth or as a result of orthodontic treatment. This relationship is usually referred to as the skeletal pattern.

3. Muscle Pattern.—The position of the teeth in relation to the skeletal pattern is influenced by the investing musculature. Here again for practical purposes it is wisest to assume that this muscle patterning does not change as a result of orthodontic treatment. Experience teaches, however, that some favourable changes may occur and in certain types of cases the only hope of a permanent dental improvement may reside in an attempt to bring about a simultaneous change in muscle action.

Extremely unfavourable muscle patterning, however, may make one decide to limit the objective of treatment and not to attempt to establish ideal normal occlusion.

It has been found that by working on the above assumptions certain procedures which used to be thought necessary have been eliminated. As a result reasonable results can be obtained more quickly.

For example in such conditions as "over-crowding" where this can be seen to be due to the size of the teeth being too large for

the size of the apical base, I no longer attempt to gain space by lateral expansion of the arches. In such cases suitable teeth are extracted and the remainder brought into alinement.

I no longer find it necessary to "open the bite" before retracting the upper incisors. In Class II, Division I cases where the overbite is considerable I find that this excessive incisor overlap corrects itself automatically when the axial relationship is improved. Hence the long procedure of bite opening is eliminated and the result achieved sooner.

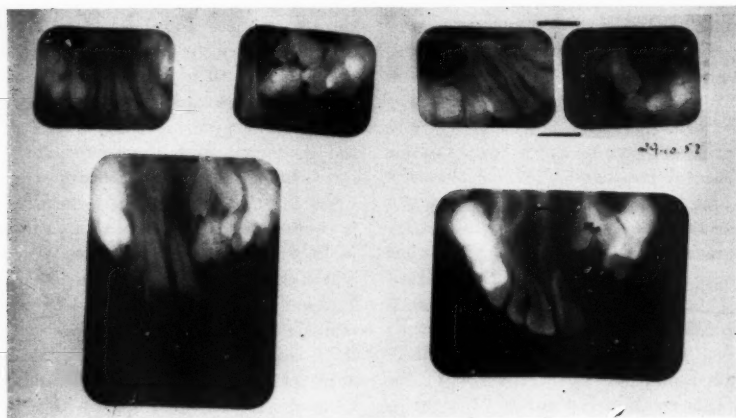
In cases where the anteroposterior relationship of the arches is abnormal cases are treated on the assumption that the apical base relationship will not change and an attempt is made to bring about an improved position of the teeth on their apical bases and within the existing muscle pattern.

Hence three appliances which used to be the standby of orthodontics have, as far as I am concerned, been almost completely discarded. These are the bite plate, the Badcock, and the inclined plane. The use of these appliances and the beliefs which led to their use were, I submit, responsible for a great deal of unnecessary and ineffective orthodontic treatment in the past.

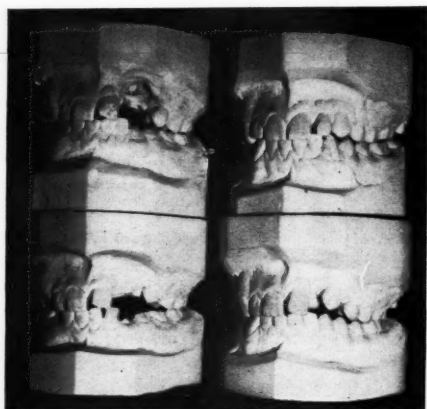
Finally, I would say that since being brought much more forcibly face to face with the problem of bringing orthodontics to the vast number of children who require it, my approach to treatment has undergone a modification. It is difficult to put this modification into words without giving a false impression, but briefly I would say that I now tend to base my objective less on the achievement of some arbitrary criterion of normal occlusion and more on the elimination of the conditions from which the patient is actually suffering or from which he may suffer in the future.

ILLUSTRATIVE CASES

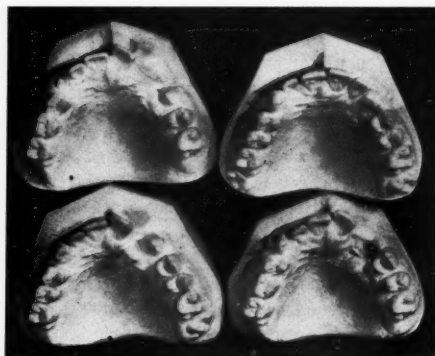
The following illustrations are of cases treated at the Bournemouth Clinic. They have been selected to show as far as possible typical treatments of the conditions most frequently met.



A

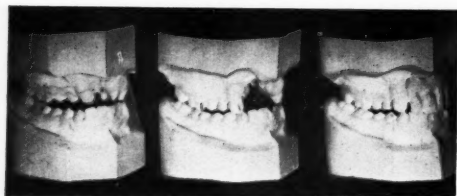


B

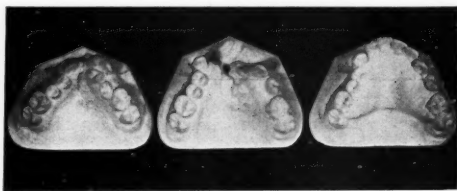


C

Fig. 1.—Case A. A, X-rays showing condition before and after removal of odontome. B, Front view of models showing condition before exposure of 23, after exposure of 23, after eruption of 23, and after orthodontic treatment. C, Occlusal views of upper models shown in B.



A



B

Fig. 2.—Case B. A, Models showing condition before treatment, after expansion of maxillary segments, and after fitting denture. B, Occlusal view of upper models.

Case A (Fig. 1).—Age at commencement 12½ years. Perfect example of Class I case with severe but local abnormality. Odontome removed some months before first seen.

23 exposed (Mr. Torrens), December, 1952.

23 fully erupted and twin wire arch fitted, December, 1953.

Twin wire arch removed. Retention appliance fitted, August, 1954.

Total visits, 22.

Estimated surgery time, 3 hours.

Duration of treatment, 2 years, 3 months.

Case B (Fig. 2).—Age at commencement 13 years 1 month. Double cleft with removal of premaxilla.

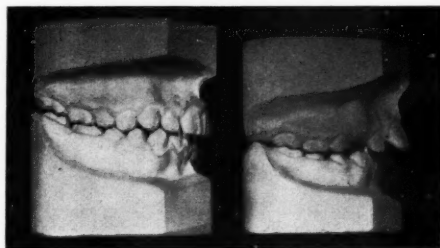
Fixed appliances fitted, November, 1950.

Fixed appliances removed and denture fitted, March, 1952.

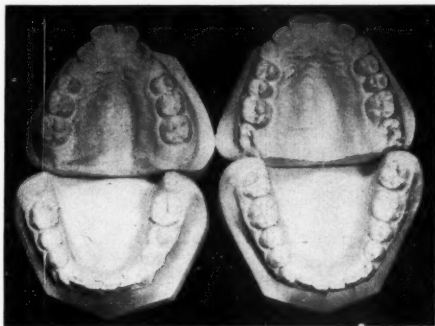
Total visits, 32.

Duration of orthodontic treatment, 1 year, 4 months.

Estimated surgery time, 4½ hours.



A



B

Fig. 3.—Case C. A, Models before and after treatment with oral screen. B, Occlusal view of models.

Case C (Fig. 3).—Class I case. Good arches. Incisor irregularity only.

Oral Screen fitted, March, 1951.

Occlusion normal, July, 1952.

Screen discarded, August, 1953.

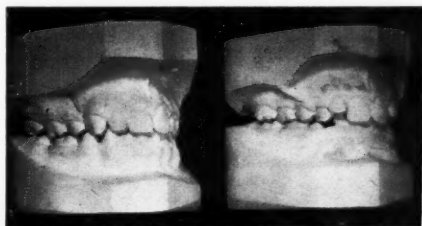
Total visits, 12.

Duration of treatment, 2 years, 5 months.

Estimated surgery time, 1 hour.

Note: (1) improvement of incisor overlap—no bite plate; (2) improvement in shape of upper arch—no badcock.

Case D (Fig. 4).—Aged 10 years. Class I case "overcrowding" due to teeth large in relation to size of apical bases.



A



B

Fig. 4.—Case D. A, Models before treatment and 2 years, 5 months after extraction of $\frac{4C}{4C}C4$. B, Occlusal view.

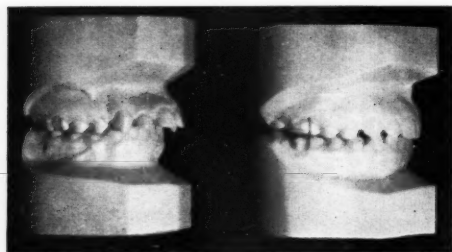
$\frac{4C}{4C}C4$ extracted, January, 1951.

Case concluded, October, 1953.

Duration of observation, 2 years, 10 months.

Total visits, 7.

Estimated surgery time, 45 minutes.



A



B

Total visits, 25.
Duration of treatment, 2 years, 9 months.
Estimated surgery time, 2 hours, 40 minutes.

Case F (Fig. 6).—Age at commencement 13 years 2 months. Class II, Division I with unfavourable muscle and skeletal pattern. 5/5 missing.

Fixed appliances fitted, February, 1951.
Fixed appliances removed, February, 1952.
Still wearing retainers.



C

Fig. 5.—*Case E*. A, Models before and after treatment with intermaxillary traction. B, Full-face photograph before and after treatment. C, Profile photograph before and after treatment.

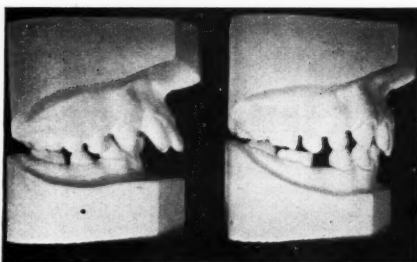
Case E (Fig. 5).—Aged 12 years. "Classic" Class II, Division I. Muscle and skeletal pattern favourable. Relationship of teeth size to apical base size good.

Intermaxillary traction appliances fitted, January, 1951.

Normal occlusion achieved, July, 1951.

Retainer fitted, January, 1952.

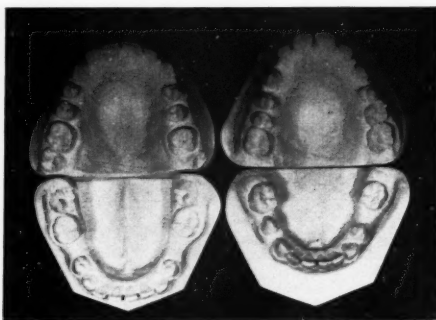
Retainer discarded, October, 1953.



B



A



C

Fig. 6.—*Case F*. A, Photograph before and after treatment. B, Models before and after treatment. C, Occlusal view of models.

Active treatment, 1 year.

Total visits to date, 34.

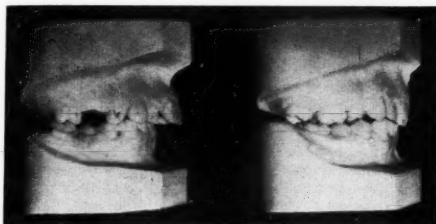
Estimated surgery time to date, $3\frac{1}{2}$ hours.

Case G (Fig. 7).—Aged 11 years. Class II, Division I. $\overline{44}$ extracted owing to discrepancy between tooth size and apical base size.

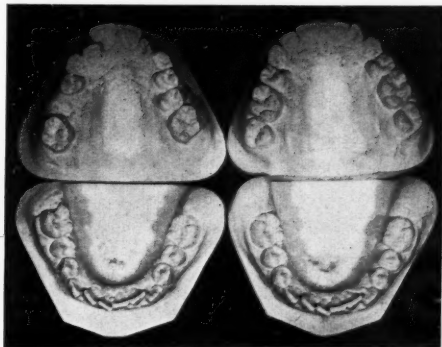
Fixed appliance to retract $\overline{33}$ fitted, November, 1953.

Fixed appliance removed. Removable appliance fitted, February, 1954.

Retainer not yet completely discarded.



A



B

Fig. 7.—Case G. A, Model before and after treatment. B, Occlusal view of models.

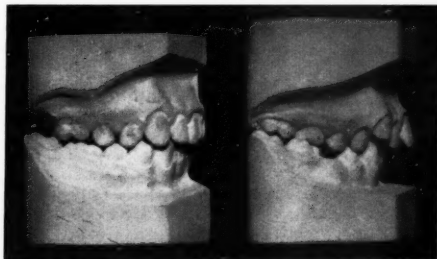
Duration of active treatment, 1 year.

Total visits, 16.

Estimated surgery time, 2 hours.

Case H (Fig. 8).—Aged 13 years. Example of case where $\overline{66}$ had to be removed because of caries.

Removable appliance fitted, November, 1952.



A



B

Fig. 8.—Case H. A, Models before and after treatment. B, Occlusal view of models.

Active treatment completed, April, 1954.

Duration of active treatment, 1 year, 5 months.

Total visits, 22.

Estimated surgery time, 2 hours.

Retainer not yet completely discarded.

Case J (Fig. 9).—Aged 11 years. Class III case treated with removable appliance.

Plate fitted, April, 1952.

Incisors normal, July, 1952.

Plate discarded, December, 1952.

$\overline{66}$ extracted later.

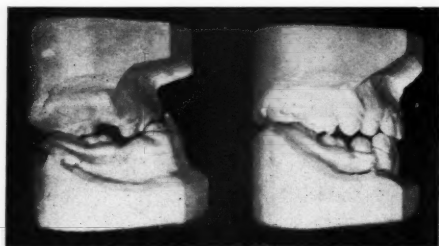
Duration of appliance treatment, 8 months.

Total visits, 9.

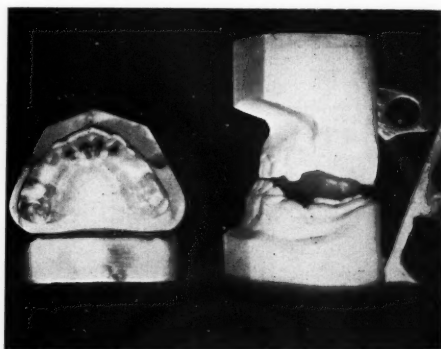
Estimated surgery time, 45 minutes.

Case K (Fig. 10).—Aged 14 years. Class III case treated with fixed appliance.

Fixed appliance fitted, December, 1950.
 Fixed appliances removed, April, 1951.
 No retention.
 Duration of active treatment, 4 months.
 Total visits, 9.
 Estimated surgery time, 75 minutes.



A



B

Fig. 9.—Case J. A, Models before and after treatment with removable screw appliance. B, Models articulated after eliminating bite of accommodation and occlusal view of appliance.

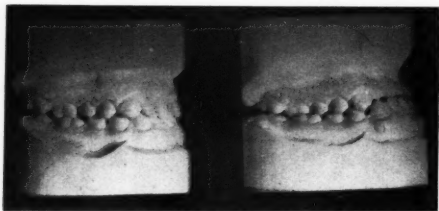


Fig. 10.—Case K. Models before and after treatment with reversed intermaxillary traction.

DISCUSSION

Mr. G. C. Dickson, in opening the discussion, said that at Birmingham there was an orthodontic service which was of a similar nature to that at Bournemouth which had been started about a year later. It had been begun in a rather different way, in that an effort had been made to advise as many dentists as possible on the way to treat orthodontic patients.

With regard to Mr. Hooper's point about dentists not wanting to treat orthodontic cases, he thought the chief reason for that was that insufficient time was given to instructing undergraduates in orthodontics. The newly qualified dental surgeon was quite prepared to make any sort of partial denture but he was not prepared to make any orthodontic appliances.

He would like to ask whether Mr. Hooper was still treating children only from the 300,000 population of Bournemouth or whether he had extended the area from which he drew his patients. If each orthodontist dealt with a population of only 300,000, about 170 orthodontists would be needed for England and Wales, and as that was a number which it would be impossible to achieve in the foreseeable future it would be necessary to utilize the services of the general dental practitioner

in treating orthodontic patients, and the undergraduate teaching in the subject would therefore have to be increased. It was obvious that undergraduates could not

be comprehensively instructed in diagnosis, but he thought that the construction and manipulation of removable appliances should be regarded as a minimum for the undergraduate curriculum.

In the meantime some source of orthodontic treatment in addition to the consultant and the general dental practitioner must be found, and he would suggest that some appointments of the Senior Hospital Dental Officer grade should be made throughout the country. If that was done, the consultants would be wasting a good deal of their time on minor treatments.

He did not agree with Mr. Hooper that the bite plate was no longer necessary. The correction of the axial inclination of the incisors was obviously essential for the treatment of an overbite, and he thought that in very many cases the bite plate was a good short cut to that.

He would like to express his admiration for the tremendous amount of good Mr. Hooper is doing at Bournemouth. Further development of such services in other parts of the country will at last bring hope to the thousands of dentally deformed children who are not fortunate enough to reside within travelling distance of a teaching hospital.

Miss M. E. Myers deplored the suggestion that partially trained orthodontists should be made senior hospital dental officers and said there were a good many trained orthodontists in the southern counties who had the status of ordinary dental officers.

Mr. G. Taylor, referring to Mr. Hooper's statement that he dealt with a population of 300,000 in Bournemouth, said that if the population there lived to the age of 60 it would mean that 5000 people were born there every year. If Mr. Hooper was treating 500 cases a year, it would seem that one child in ten suffered from some orthodontic deformity. It was known that that was not the case, and what had happened was that Mr. Hooper had gone to Bournemouth and was now treating orthodontic deformities in all the age groups of that district. When he had finished treating them, he would get cases at a much reduced rate, as the children would be virtually from one age group.

Mr. J. H. Hovell said that Mr. Hooper worked about three times as quickly as any other orthodontist whom he knew, so that it was not 170 orthodontists that would be needed, as Mr. Dickson had said, but three times that number.

An important question was whether the consultant orthodontist in the Health Service should do any treatment. He felt that Mr. Hooper, who was an expert diagnostician, was to a certain extent wasting his time in doing treatment. He thought that in a hospital orthodontic service the consultant's work should be confined to diagnosis and that he should have working under him people who were trained in orthodontic mechanical procedures. These people might or might not be general dental surgeons, as these had plenty of other work to do. If they were general dental surgeons, they should be those who had had special training and were more skilled in the mechanical procedures of orthodontics. If that scheme were adopted, how many cases could Mr. Hooper supervise?

Miss L. M. Clinch said she thought that the scheme suggested by Mr. Hovell might be a good one but highly trained technical dental surgeons would be needed for it, and they did not exist now. One disadvantage in an orthodontist advising on treatment was that he could not be sure that the dental surgeon to whom he was speaking or writing understood what he wanted done. That was probably due to lack of undergraduate teaching. She certainly would not say that Mr. Hooper was wasting his time in treating cases himself.

With regard to Mr. Hooper's statement that he never expanded an arch, what did he do if the upper molars and premolar or deciduous molars were in lingual occlusion to the lowers in a normal arch relationship?

Mr. Jason Wood, in supporting the remarks made by Miss Clinch, said it was impossible to know what a general dental surgeon could or could not do in the way of orthodontic treatment when he was advised on it, and this system was very unsatisfactory. He thought that all cases should be treated by experts.

Mrs. Michaelis said she felt sorry for the patient who Mr. Hooper said would have to wear a lower retainer all his life. She hoped that he would be allowed to have two neat bridges put in, one on each side. That could surely be done by one of the many skilled dental surgeons to whom reference had been made.

Mr. H. L. Leech said that in his experience undergraduate students could be taught to diagnose orthodontic cases quite accurately and it was only by having a knowledge of diagnosis that they could decide which cases they could treat and which they could not. He thought that most of the treatment planning afterwards came from experience.

Mr. H. G. Watkin said that an orthodontist could diagnose a case very well without seeing the patient if models, well made and articulated, were sent to him, also X rays and sometimes photographs. He thought that this service ought to be developed further.

Mr. Walpole Day, referring to the question of undergraduate teaching in orthodontics, said that in Birmingham for many years orthodontics had been considered a postgraduate subject and the directions given had been to concentrate on diagnosis and not on treatment. The unfortunate results of that were now being experienced, and so the policy was now being modified to include treatment. As one who had been concerned with undergraduate training for a long time, he would say that very few undergraduates were born orthodontists.

He was glad that the Royal College had instituted a diploma in orthodontics, as that would encourage students to devote more time and study to the subject.

Miss R. Caseley deprecated the practice of referring orthodontic cases to the general dental practitioner for treatment, because she thought that general dental practitioners at the present time were fully occupied in carrying out the very essential conservative treatment.

Mr. C. F. Ballard said he thought that the remarks made by Mr. Hovell and a number of other speakers showed that the Report of the B.D.A. Committee on Orthodontic Services was correct. It was the view of that Committee that the most important part of the teaching in undergraduate schools was diagnosis, and he thought that, as orthodontic diagnosis was fundamental to all branches of dentistry, it should not be called "orthodontic diagnosis".

With regard to appliances, as a result of the courses that had been held for general dental practitioners at the Eastman Dental Hospital and the courses which were being held there for technicians, it was felt that the general dental practitioner should be taught appliance design and that the technician should be taught how to make the appliances.

Mr. E. K. Breakspear referred to the very short surgery time which Mr. Hooper estimated for his cases and said he thought it was important to recognize that different people worked at different paces.

He would like to ask whether Mr. Hooper took his own record models, whether he made his bands in the mouth or whether they were made by a technician on the model, and whether he personally explained the treatment and care of appliances, etc., to the patient, or whether that was done by a nurse.

Mr. H. E. Wilson said he had noticed that in Mr. Hooper's tables there was no reference to patients not keeping their appointments. It was his own experience that a large proportion of patients started treatment but did not complete it, and he would like to know whether that was Mr. Hooper's experience also.

Mr. G. Sperry-Jones said that from a general dental practitioner's point of view he deplored the gap between orthodontics and children's dentistry. He thought that, instead of more orthodontists being trained, the available man-power would be better employed in concentrating on children at a very early age and putting the emphasis on conserving the primary dentition at all costs, thus reducing the amount of orthodontic treatment needed later on.

Mr. P. G. Oliver said his experience was that children were sent for orthodontic treatment at a very early age and he thought it would be a good plan to suggest a minimum age at which the greatest amount of good would be obtained from a consultation.

He thought that as time went on the schemes should be expanded so that the consultant worked principally in a consultant capacity and much of the actual treatment was done by trained senior clinicians who were not of consultant status. That team work, he thought, would give the best results.

Mr. S. G. McCallin said that an orthodontist with Mr. Hooper's background and training appeared to be able to do a tremendous amount of excellent work employing very little chairside time per case. Therefore, he would suggest the best course to adopt would be to make it possible for more dental practitioners to acquire the same high standard of skill as a solution to the orthodontic needs of the public.

The President, referring to the fact that Mr. Hooper was now taking on cases at the rate of about 500 a year, said that he would reach a point where he could not absorb them at that rate, because he would not be finishing them fast enough to do so. Did Mr. Hooper feel that he was now reaching the limit and would need some help?

He thought that consultants, when advising general practitioners, should come to a level that the general practitioner could understand and should be careful to give advice which he could carry out easily.

Mr. J. D. Hooper, in replying to the discussion, said he thought there must be a snag in Mr. Taylor's statistics but he would bear his point in mind.

On the question of consultants confining themselves to advising, that was undoubtedly the ideal state of affairs, but what was a consultant to do when Practitioner A referred a case to him which he knew could be treated quite well by Practitioner B? In the present situation, the consultant could not refer Practitioner A's case to Practitioner B. Many general dental practitioners carried out simple orthodontic procedures themselves and did not trouble consultants with them. As things were at the moment, the consultant could not confine himself entirely to giving advice. Personally he would not like to be in that position; he enjoyed his work chiefly because of the contact he had with the patients, and he would not like to give up treating them himself. Moreover, he thought that the consultant with his greater experience did in fact treat the cases more quickly, because he saw the short cuts and took them. He did not think that a consultant could make an absolute diagnosis at the first visit, because he was dealing with a child that was growing and developing, and he would probably want to modify his treatment plan as time went on.

In reply to Miss Clinch's question, he would say that he did not expand an arch to get space. He had discarded the Badcock plate as a space-gaining appliance. If there was a lingual occlusion he certainly treated it by expanding the arch.

The patient to whom Mrs. Michaelis had referred could have two bridges, but they would not necessarily support his lower labial segment. He thought that a little skeleton denture would be a good idea, and that would in effect be a retention plate as well.

With regard to the remarks made by Mr. Leech and Mr. Ballard, he agreed that a knowledge of orthodontic diagnosis was a help to students in other branches of dentistry; therefore he thought that they should continue to be taught diagnosis, and, if possible, they should be taught the construction of appliances also. At the present time undergraduates were not given sufficient instruction in orthodontics, but he did not think the fault lay with the dental schools; it lay with the examining bodies or the people who drew up the curriculum.

With regard to Mr. Watkin's remarks, he agreed that diagnosis should be done from models if the practitioner could not get an opinion in any other way, but it was very much better for the orthodontist to see the patient.

He agreed with Mr. Day that the diploma in orthodontics was an excellent thing to encourage students to take an interest in the subject and to study it.

It was not for him to decide the question of priorities, to which Miss Caseley had referred. It was obviously no use doing orthodontics if the conservation work was not done.

With regard to Mr. Breakspear's remarks, he got through the work so quickly because he streamlined it 420

and also because he had a first-class surgery assistant and secretary.

He took his own models of the cases that he was treating himself, but the patients who were sent to him for advice brought their models with them. He made his bands in the mouth, but his surgery assistant did the welding and trimming up. He did not allow her to explain the treatment to the patients; he did that himself.

In reply to Mr. Wilson, he had not intended to conceal the fact that there was wastage, and he could look up the figures for that. If patients did not keep their appointments and did not send any excuse, he did not send for them; he left it to them to ask for another appointment.

Mr. Sperryn-Jones had made a good point about children's dentistry. A great many orthodontic cases were complicated by the lack of good intelligent children's dentistry, but it was not absolutely essential to preserve every deciduous tooth for orthodontic reasons. For instance, Class III cases did not suffer very much if they lost their lower deciduous molars.

He did not think that any definite age could be stated at which cases should be referred. It depended on the type of case, whether teeth had been extracted or were likely to be, the state of caries, and so forth.

In reply to the President, he did not know when he would reach his limit in the number of cases. He had nearly completed five years at the work, so he supposed he would soon start discarding patients much more quickly. Large numbers of those who had not yet been discarded came only once every six months or once a year.

He agreed with the President that it was no use an orthodontist advising a general practitioner to put in an appliance which the general practitioner could not construct. The advice given should be of a practical commonsense nature which the general practitioner could carry out.

On the motion of the President, a vote of thanks was accorded to Mr. Hooper, and the meeting then terminated.

A Functional Space Maintainer and Guide for the Unerupted First Permanent Molar

A cast fixed-space maintainer is described to replace a lower second deciduous molar lost before the lower first permanent molar has erupted. The lower first deciduous molar is disked to separate it from the canine, and a composition impression taken in a copper ring. The bite is recorded and a full-crown cast with a distal flange so placed as to prevent the over-eruption of the upper second deciduous molar, or the forward tilting of the lower first permanent molar on eruption. It is claimed by the authors that no occlusal trimming of the first deciduous molar is necessary, as the small amount the bite is propped when the crown is cemented is quickly corrected by the young adaptable tissues.—FOGELS, H. R., and SHIERE, F. R. (1955), *J. Dent. Child.*, 22, No. 1, 44.

A CASE OF AN INVERTED THIRD MOLAR TOOTH IN THE CORONOID PROCESS ASSOCIATED WITH A DENTIGEROUS CYST

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CASE REPORT

THE patient, a woman aged 79 years, was referred for the treatment of a large cyst involving the right side of the mandible. The history of the condition revealed that she had attended her own dental surgeon two months previously complaining of pain in the second lower right molar tooth. This was extracted under local anaesthesia, but the socket failed to heal, and the patient was aware of a persistent and unpleasant taste in her

into the body of the mandible as far forward as 5 (Figs. 1, 2).

In view of the very large size of the cyst and the deep situation of the contained tooth, it was decided that the best access would be gained by means of an external approach.

TREATMENT.—Under general anaesthesia, an incision 4 in. long was made in a skin crease in the right sub-mandibular region. After division of the superficial fascia and platysma, dissection was carried down to



Fig. 1.—Lateral oblique view of the mandible showing the extent of the cyst and the location of the contained tooth.

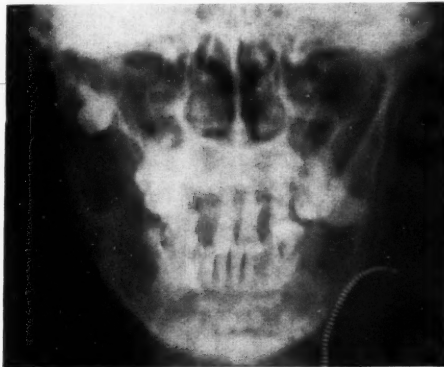


Fig. 2.—Postero-anterior view demonstrating perforation of the medial aspect of the coronoid process of the mandible by the apex of the tooth.

mouth. An intra-oral X-ray was therefore taken, which revealed the presence of a cystic cavity.

CLINICAL EXAMINATION.—On admission, the patient was found to be in remarkably good health for a woman of her age.

Extra-orally there was no noticeable swelling of the face, and nothing abnormal could be palpated.

Intra-orally the following teeth were present:—

87 54 1/1 3 78
54321/12345

The socket of 7/ was still unhealed, and a slight bony-hard swelling on the outer plate of the mandible could be palpated in the 8-5/ region, which extended upwards and backwards into the ramus.

RADIOLOGICAL EXAMINATION.—This revealed an extensive dentigerous cyst containing the unerupted mandibular third molar tooth which was lying in an inverted position in the tip of the coronoid process. The cyst occupied the whole of the ramus and extended

the mandible, the common facial vein and facial artery being divided between ligatures. By incising the masseter muscle at its insertion into the mandible, and reflecting it upwards, a very good exposure of the ramus was attained (Fig. 3).

The bone overlying the cyst was removed with a chisel and bone nibblers, thus bringing the cyst lining into view (Fig. 4). This was found to be thick but somewhat friable, and came away in several pieces. The tooth was then seen protruding into the cyst cavity, its roots being embedded in the tip of the coronoid process (Fig. 5). No difficulty was experienced in removing the tooth. On inspecting the socket a perforation was found on the medial side, where the apex of the tooth had lain. At no time during the operation were the inferior dental nerve and vessels seen, and it was assumed that they must have been displaced medially to the cyst cavity. A careful search was then made of the roof of the cyst cavity adjacent to the socket of the second

molar tooth which had been extracted two months previously, and it was confirmed that there was still some degree of communication with the oral cavity.

It was therefore considered inadvisable to pack the defect in the bone with fibrin foam or gelfoam, and

which was infiltrated with plasma cells and polymorphonuclear leucocytes.

The patient was examined one month post-operatively, when it was observed that the incision and the socket were soundly healed. Some return of sensation in the

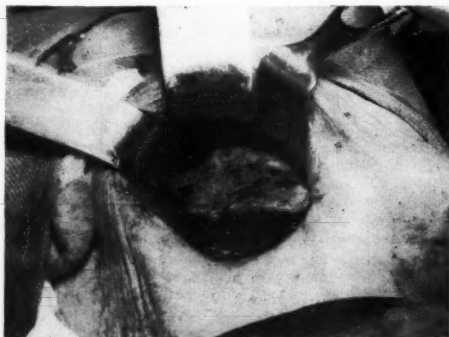


Fig. 3.—Exposure of the ramus of the mandible.

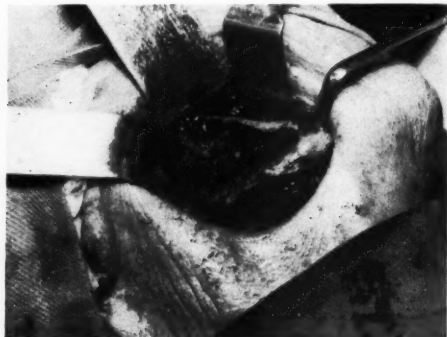


Fig. 4.—Cyst lining following removal of the overlying bone.

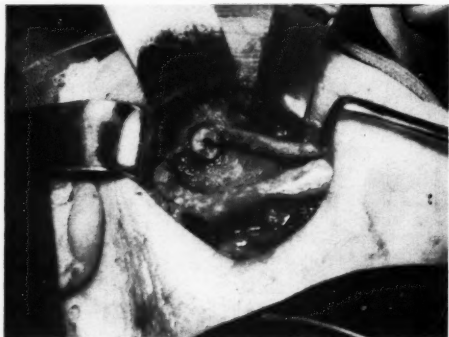


Fig. 5.—Tooth in situ after removal of cyst lining.

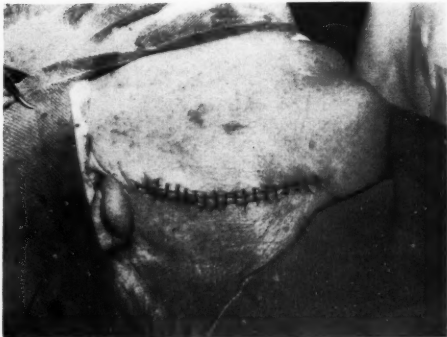


Fig. 6.—Appearance at conclusion of operation.

the wound was closed in layers without drainage by means of catgut and interrupted black silk sutures (Fig. 6).

An intra-oral approach to the socket of $\overline{7}$ was then made and the margins were excised and carefully approximated with interrupted black silk sutures.

POST-OPERATIVE COURSE.—The patient's post-operative condition was entirely satisfactory, the sutures being removed from the submandibular incision on the fifth day, and those in the mouth two days later. A mild degree of paræsthesia of the lower lip on the right side persisted, which was probably due to bruising of the mental nerve at the anterior limit of the cyst cavity during the operation. The patient was discharged from hospital on the seventh post-operative day.

HISTOLOGY.—The pathological report stated that the tissues submitted were consistent with the clinical diagnosis of a cyst of dental origin, showing the presence of squamous epithelium covering the wall of the cyst,

lower lip had taken place and the slight degree of residual anaesthesia which was present did not inconvenience the patient.

DISCUSSION

Lower third molar teeth are frequently found in ectopic positions, and cases of third molars lying in the coronoid process have been previously reported in the literature. Nodine (1946, a, b) recorded two such cases, and further cases have been published by Janes (1945) and Martins-Buddery (1954). None of these cases, however, was associated with a cyst. It is a matter of interest and speculation in the case under discussion as to

whether the tooth was originally lying in its inverted position in the coronoid process of the mandible or had been displaced into this position by pressure from the fluid contained within the cyst.

REFERENCES

- JANES, B. V. (1945), *Brit. dent. J.*, **79**, 194.
MARTINS-BUDDERY, D. J. (1954), *Ibid.*, **97**, 157.
NODINE, A. M. (1946a) *Dent. Items*, **68**, 30.
— (1946b), *Ibid.*, **68**, 282.

THE DIVISION OF A PARTNERSHIP INCOME TAX ASSESSMENT

By JOHN LYMESTER

WHEN two or more persons have entered into a partnership the income tax assessments are not made on the individual partners but on the partnership in one sum, and thus it may be that the partnership pays income tax in a greater sum for one partner than another. This is normally so because each individual partner is entitled to different allowances and may have different outside incomes.

The partnership income tax when paid should not be considered as a charge against the profits, but should be divided between the partners in the proper proportions and charged against their capital or current accounts. For the normal continuing partnership the assessment is based on the profits of a preceding year. There are special provisions for the first three income tax years and the last two income tax years, but again the rules of assessment are merely for the convenience of assessment and collection of income tax and every income tax assessment applies to an income tax year and covers the financial profits made in that year.

For example, if a partnership has been in existence for a number of years, the assessment for the current income tax year, that is, 1955-6 which runs from April 6, 1955, to April 5, 1956, will be based on the profits of the year which ended before April 6, 1955, for example, Dec. 31, 1954, but the assessment is to cover the profits which have been made in the income tax year 1955-6.

The assessment will be taken by the Inspector of Taxes and divided between the partners according to the proportion in which they divide the profits during the income tax

year. Thus, if they divide the profits equally the assessment will be shared equally. From each half of the assessment there have to be deducted the allowances to which each partner is entitled, and consequently, the final income tax payable may differ considerably as between the two partners. Thus it is very necessary for the actual division of the assessment between the partners to be ascertained and correctly recorded in the books.

The position becomes complicated, however, if the partners are entitled to varying salaries, or interest on capital before the profits are divided. Thus, if there are three partners in a partnership and the profits as agreed are £5000, but A is entitled to a salary of £1000 and B to a salary of £600 and C to a salary of £400, and then the profits are shared equally, it is obvious that the division of the assessment must first take into account the salaries and then the third share of the profits: thus A will be assessed on £2000, i.e., the salary of £1000 plus one-third of the remaining profit, which equals £1000; B will be assessed on £1600, i.e., the salary of £600 plus his third share of the profits £1000; and C on £1400, that is, his salary of £400 plus his third share of the profits of £1000.

Again, if A and B are single men, while C is a married man with several children, C's share of the income tax will in fact be much smaller than that of his two partners.

Again, it may be that during the year in which the profits were made the partners divided the profits in a certain ratio, but in the actual income tax year to which the assessment applies, they have amended their

partnership agreement and now share the profits in a different ratio. In such circumstances, although they shared the profits of the basic financial year in a different proportion, the actual ratio and division in the income tax year will apply to the division of the income tax assessment.

A position of some complication arises when there are partnership changes, when, for example, a partner retires or, alternatively, a new partner is admitted.

By the provisions of the Finance Act, 1953, when there is a change in a partnership, the assessment on the partnership will be dealt with as if the old partnership ceased on the date of the change and the new partnership was set up.

This has the effect of causing the partnership assessments for the two income tax years prior to the change to be raised according to the rules when a business is discontinued. In such circumstances the Inland Revenue have an option for the next to last income tax year, and the assessment for the last income tax year is based on the actual profits.

Similarly, for the new partnership after the change, the assessments for the first three income tax years are raised according to the rules for a new business, that is, the first year is based on the profits from the date of the change to the following April 5, the assessment for the second income tax year is based on the profits of the first twelve month's trading, and the assessment for the third income tax year is based on the profits of the preceding financial year, which is often the profits of the first twelve months' trading.

At this stage the taxpayers have the right to have the assessments for both the second and third income tax years, but not one only, based on the actual profits of those two income tax years.

It is possible, however, when there has been a change, for the assessments to continue on the normal preceding year basis if application is made in writing by all partners both before and after the change to have the assessment so raised.

It should be noted that this only applies for the income tax years 1953-54 and afterwards,

this provision having been made by the Finance Act, 1953. Prior to that date, all assessments when there were changes of partnerships, continued on the normal continuing basis unless all partners, both before and after the change, applied to have the assessments raised on the basis that a discontinuance has taken place at the date of the change.

The profits of the partnership are computed on the normal basis, that is, items which are not considered as allowable expenses are disallowed to increase the profits. For example, payments from which income tax should have been deducted, such as interest, are disallowed. It should also be noted that any payments to partners by way of salary, wages, interest on capital, or division of the profits are not allowed, for unlike a director of a limited company, the partner is not assessed under P.A.Y.E. on his drawings from the partnership.

Finally, it will be appreciated that in keeping correct records of a partnership, each partner should be charged with his proper proportion of the income tax payable and that, in the event of a change, considerable care should be given to the question of whether application should be made for the assessments to be continued to be raised on the normal preceding year basis.

The Reaction of Clinically Normal Gingiva to Abrasive Injury

Six subjects had their gingivæ abraded by using a coarse-grit aluminium oxide powder with an Airdent machine. In all, 12 gingival papillæ were abraded. Biopsies were taken before the experiment, immediately following injury, and 6, 12, 18, 24, and 48 hours after abrasion.

Histological examination showed partial destruction of the epithelium, damage of epithelial remnants, exposure of connective tissue, and the embedding of crystalline aluminium oxide in epithelium and connective tissue. A mild inflammatory reaction resulted and surface repair began about 12 hours after injury and was complete at between 24 and 48 hours.—KOLLAR, J. A., WENTZ, F. M., and ORBAN, B. (1955), *J. Periodont.*, 26, 95.

DIETARY HABITS OF PRIMITIVE PEOPLE

Mr. R. G. WILLOUGHBY, M.D.S., our correspondent in South Australia, writes: One of the major activities of the University of Adelaide Dental School has been directed towards an investigation of the dental condition and the dietary habits of some of the primitive people who live in Australia and in New Guinea.

The University has, since 1951, sent a Research Team to study physical and social anthropology among a group of natives living on the fringe of civilization at Yuendumoo, about 180 miles north-west of Alice Springs. The Government maintains a Native Mission in this place and although the natives are not permanently housed there they can, if they choose, live at this Mission for the rest of their lives. They are issued with rations of sugar, flour, tea, and mid-day stew. The children are taught in school up to standard Grade VII.

This research team has made several films at the station; one on the dietary and eating habits of the Australian aborigine and the everlasting search that he makes for sustenance in those places beyond the reach of civilization. The collection of grass seeds is done by raiding the winter stores laid up by ants: edible roots and bulbs are dug up by children: and a further supply of carbohydrate is obtained by milking honey from a special species of honey ant. Many forms of wild game are eaten almost raw and the film shows what variety of food is available to the native who is prepared to work unceasingly to find it.

A second film has shown the social problems which arise because aboriginal children are educated to the equivalent of Grade VII standard and then allowed, at the age of 12, to leave without adequate training for a trade or useful occupation. At the same time, their ancestral hunting-grounds have been taken from them by the flocks and herds of the white man.

On the purely dental side of that study, some very interesting results have been obtained by M. J. Barrett, M.D.S., Reader in

Prosthetic Dentistry at the University of Adelaide, on the pattern of attrition in these primitive teeth due to their vigorous use and the nature of the diet.

These laboriously collected grass seeds are crudely ground between smooth sandstones, mixed with water to make a paste, poured on to a leaf or piece of bark, charred with a quick fire to prevent the adherence of ash, then baked in hot sand and ashes.

With such a diet attrition is naturally very marked and the cusps of deciduous molars have been completely obliterated by the time the 6-year-old molar erupts. Similarly, the cusps of the 6-year-old molar have been worn flat by the time the 12-year-old molar erupts. In old age, several of these natives can show perfect balance of occlusion even though their plane of occlusion is the reverse of that postulated by Monson, the buccal cusps of the upper molars being far longer than the lingual.

Along with this great occlusal attrition there is marked interproximal attrition, and it has been suggested by Begg that this is responsible for the very rare occurrence of malocclusion in aborigines. Although they have very large teeth, they sometimes exhibit so much interproximal wear that from the distal of one lower second molar around to the distal of the other lower second molar a total loss of interproximal tooth structure has occurred greater than the width of a third molar and thus these third molars have adequate room to erupt normally into the arch.

The periodontal condition is usually good in spite of a surface film of debris because the very coarse fibrous nature of the diet ensures normal stimulation and tissue tone.

Two interesting results of this excessive attrition have been noted: (1) The normal occlusal relationship of maxilla to mandible tends with age to assume an edge-to-edge relationship; and (2) Several individuals show a good functional occlusion with perfect balance in more than one position—that is, they have two quite distinct and markedly different balanced functional centric occlusions.

RESTORATIVE TREATMENT OF ANODONTIA IN A DEVELOPING CHILD*

By H. L. LEECH, B.D.S., F.D.S., Dip. Orth.

CASE REPORT

THE patient, a boy aged 10 years 3 months, first attended in 1949 when he was $4\frac{1}{2}$ years old because it was noticed that none of his teeth had erupted except two lower deciduous molars a year previously (Fig. 1).



A



B

Fig 1.—A, Model age: 10 years 3 months.
B, Intra-oral view.

Radiographic examination showed that these were indeed the only teeth present, there being no evidence of

the development of the remaining deciduous dentition or any of the permanent teeth (Fig. 2).

FAMILY HISTORY.—There was an absence of $21/12$ in the mother, but there was no history of abnormalities in the father, sister, or grandparents as far as is known.

ON EXAMINATION.—Other signs of ectodermal dysplasia were sought. His hair was fair, of fine texture, and not unduly sparse in quantity. The nails and sweat-glands were normal.

Muscle Resting Pattern.—With the mandible in its physiological rest position the lips were competent.

Muscle Behaviour Patterns.—The swallow was of an infantile type, with a thrust of the tongue between the



Fig. 2.—Lateral radiograph in rest position.

upper and lower gum pads against the lower lip which contracted a little. There was a tendency for the tongue thrusting to be maintained after dentures were fitted.

Skeletal Pattern (Fig. 3).—The jaws were well developed, with a mandibular angle of average size (F-M angle 27°). In the physiological rest position the skeletal classification was Class I, angles S.N.A. and S.N.B. being identical at 78° .

TREATMENT.—Full upper and partial lower dentures were made in such a way that, with the mandible in its rest position, there was a freeway space of normal proportions—about 2 mm. This rest position and freeway space were checked from lateral skull radiographs with the dentures in place.

The retention of these dentures was much better than anticipated. He became accustomed to them in a very short time and managed a meal quite comfortably just after their insertion.

* Paper read at the Country Meeting of The British Society for the Study of Orthodontics held at Sheffield, Friday, May 6, 1955.

Renewals were necessary just fifteen months later. It was noticed that the skeletal growth had increased the vertical height, resulting in an excessive freeway space and overclosure of the mandible on occlusion

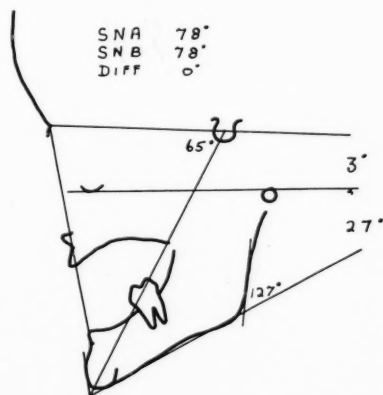


Fig. 3.—Tracing of lateral radiograph.

	SNA	SNB	DIFF
13-2-50	78	78	0
8-2-52	79	81	-2
5-1-54	80	84	-4

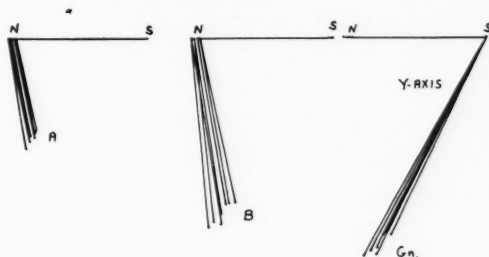
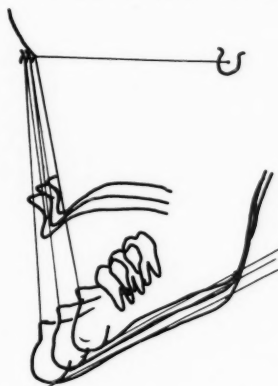


Fig. 4.—Superimposed tracings on S.N. plane.

giving a slight Class III relationship. Growth in the maxilla was mostly apparent in the tuberosity region, where the heels of the upper denture now dug into the gum short of the arch length.

New dentures were made to fill in the extra inter-alveolar space.

Further remakes or relinings have been necessary at intervals ranging from six months to one year.

Comment.—Lateral skull radiographs have been taken at each visit with the mandible in its physiological rest position and the growth studied from tracings (Fig. 4).

The anterior part of the cranial base S-N has increased in length only 3.5 mm., which supports its use as a relatively stable plane of reference for studying facial growth. The composite tracings show that facial growth has taken place in a downward and forward direction relative to the cranial base.

The physiological rest position of the mandible has remained remarkably constant during growth, as seen from the SN-MP angles. The gonial angle has remained fairly constant.

The increased vertical height and corresponding increase in the freeway space is shown in the differences between the linear measurements N-A and N-B (Table 1).

Allowing for a margin of error in obtaining the mandibular rest position, it seems from the SNA-SNB angles that the increasing prognathism has been greater in the mandible than the maxilla, i.e., an increasing Class III tendency. (Fig. 4.)

One final conclusion is that the growth of the jaws has been affected little, if at all, by the absence of the masticatory forces normally transmitted to the basal bones via the teeth and alveolar bone.

I would like to thank Mr. Hovell, Director of the Orthodontic Department of the Royal Dental Hospital of London, and Mr. Ballard, Director of the Orthodontic Department of the Eastman Dental Hospital, London, for permission to publish this case.

Table I

DATE	AGE	GONIAL ANGLE	SN MP	SNA	SNB	SNA SNB DIFF.	NA mm.	NB mm.	AB mm.	NA NB	SN mm.	Y mm.	Y/SN ANGLE
13.2.50	5	127°	30°	78°	78°	—	44	78	34	56.4	61	105	65°
2.10.50	5 $\frac{8}{12}$	125°	29°	79°	81°	-2°	45	78	33	57.7	61	106	63°
10.4.51	6 $\frac{8}{12}$	125°	30°	78°	80°	-2°	46	80	34	57.5	62	108	62°
8.2.52	7	125°	31°	79°	81°	-2°	47	83	36	56.6	63	113	63°
5.8.52	7 $\frac{6}{12}$	127°	29°	80°	83°	-3°	49	87	38	56.3	63	117	62°
22.4.53	8 $\frac{2}{12}$	126°	31°	78°	80°	-2°	50	88	38	56.8	64.5	117	64°
5.1.54	8 $\frac{1}{12}$	127°	28°	80°	84°	-4°	52	90	38	57.7	64.5	120	61°

DISCUSSION

The President, Mr. Pringle, thanked Mr. Leech for his paper and said that there was some doubt in his mind concerning the constancy of the rest position. In a previous paper Mr. Leech had not made any qualifications in discussing the rest position, which Mr. Pringle thought varied with the positions of the head. He asked Mr. Leech to give his definition of the physiological rest position of the mandible and describe how he determined it. He thought there was some doubt about the accuracy in determining the rest position in this case of anodontia as the boy was shown to have a different appearance when viewed in the film and from the lateral radiographs.

Mr. Tulley commented on the possibilities of studying the growth of the basal elements of the jaws in such cases of anodontia. He asked Mr. Leech whether the patient swallowed with the teeth in occlusion when the dentures were fitted and how he took the bite.

Mr. Chapman commented on the fact that he thought the boy had the appearance of Angle's Class II, division 1 and Mr. Leech had said that the jaw relationship had a tendency to Class III. Another explanation of the more forward position of the mandible, which the cephalometric tracings reveal, could be that the case is one of those in which a normal forward movement of the mandible has occurred; the photographs of the boy suggest that this is more probably the correct one as there is no suggestion of a Class III appearance but rather a Class II or post-normal relation of the mandible which in the course of development has changed to a normal relation.

Mr. Leech, in replying to the discussion, said in answer to Mr. Pringle that his definition of the physiological rest position was that position of rest of the mandible where the elevators and depressors are in a condition of reciprocal tonus and from which all movements of the mandible start. The method of obtaining the physiological rest position was to get the patient to swallow and say 'M' and then wait for his jaw to go into the rest position.

With regard to the taking of the bite, this was taken by clinical assessment and checked with the lateral radiographs, closing 2-3 mm. from the rest position. With regard to swallowing, he could not give a definite

answer, but he had noticed that sometimes the teeth were occluded and other times the tongue thrust, which was present without the dentures, was maintained after their insertion. Mr. Leech said in reply to Mr. Chapman that it was very difficult to assess the growth and the relationship of the edentulous jaws as all movements had to be made from an arbitrary rest position.

COURSES FOR DENTAL TECHNICIANS

Eastman Dental Hospital

Evening Courses for Dental Technicians in Crown and Bridgework, Full and Partial Dentures, the Construction of Chrome-Cobalt Appliances, and Orthodontics will be held, commencing in October, 1955. Each course will consist of twelve sessions, which will be held fortnightly. The courses will be of an advanced nature and are primarily intended for adult technicians.

Further particulars and application forms, which must be returned on or before Sept. 12, may be obtained from the Honorary Secretary, Dental Technicians' Committee, Eastman Dental Hospital, London, W.C.1.

Brooklands County Technical College, Heath Road, Weybridge

A Course in Advanced Dental Technology will commence in October, 1955, and will be based upon the syllabus for the L.I.B.S.T. Examination. All adult dental technicians are eligible to attend. Further particulars may be obtained from the Principal.

THE PROCEEDINGS OF THE BRITISH SOCIETY OF PERIODONTOLOGY

President: F. E. HOPPER, B.D.S., F.D.S. R.C.S.

Hon. Secretary: A. BRYAN WADE, B.Ch.D., F.D.S. R.C.S.,
The Royal Dental Hospital, Leicester Square, London, W.C.2

Vol. V, No. 7

August, 1955

ANNUAL CLINICAL MEETING, 1955

CASES OF CLINICAL INTEREST

HETEROGENOUS BONE-GRAFT

By W. G. CROSS, M.S., M.B., B.D.S.

Department of Periodontology, Institute of Dental Surgery,
University of London

HISTORY.—Recent periodontal abscess $\overline{21}$ region, treated by incision.

ON EXAMINATION.—Sept. 6, 1954: several deep localized pockets, some intrabony. Mobility $\overline{2}$ grade I, $\overline{11}$ grade II. Intrabony pocket $\overline{3}$ mesially. Total depth

12 mm., about 6 mm. intrabony. Traumatic occlusion in centric $\overline{11}$ $\overline{21/12}$.

DIAGNOSIS.—Chronic periodontitis.

TREATMENT.—

1. Scaling.
2. Nov. 2, 1954. Buccal flap $\overline{23}$ under penicillin cover, curettage with Antiformin, cancellous bone-graft inserted, two sutures and pack.
3. Dec. 13, 1954: $\overline{3}$ has 2-3 mm. pocket clinically.
- March 24, 1955: Gingivectomy $\overline{8-4}$.
4. April 13, 1955: Gingivectomy $\overline{1-8}$.

Observations.—The graft inserted six months ago appears to be satisfactory, clinically and radiographically (Fig. 1). A crevice of 1-2 mm. only is present.

ORTHODONTIC TREATMENT AND REMOVABLE SPLINT

By W. G. CROSS, M.S., M.B., B.D.S.

Department of Periodontology, Institute of Dental Surgery,
University of London

EXAMINATION (June 24, 1953).—Class III occlusion, $\overline{11}$ lingual to $\overline{11}$. Mobility $\overline{11}$ —Grade II+.



Fig. 1.—Heterogenous bone-graft inserted on Nov. 2, 1953



Fig. 1.—Left, before treatment; Right, after treatment.

TREATMENT PLAN.—

1. Grind $\overline{11}$ incisally, move $\overline{11}$ forward to edge-to-edge position.
2. Gingivectomy.
3. Splint $\overline{21/12}$.
4. Partial upper denture.

TREATMENT.—In two weeks $\overline{11}$ were moved, after incisal grinding, to edge-to-edge position.

Aug. 6, 1953: Splint fitted.
 Sept. 24, 1953: Gingivectomy 4-|-4.
 April 1, 1955: New splint inserted.
 April 20, 1955: Impressions for partial metal upper denture.

Observations.—Although the ultimate prognosis for 21|1 is not good, the treatment undertaken (Fig. 1) has given the patient for the first time a comfortable occlusion.

MAXILLARY SUBPERIOSTEAL CHROME-COBALT IMPLANT

By W. G. CROSS, M.S., M.B., B.D.S.

Department of Periodontology, Institute of Dental Surgery, University of London

HISTORY.—Patient has had periodontal treatment at this hospital since 1953. In August, 1954, developed a periodontal abscess 8|, with 12-mm. pocket. 8| was extracted, leaving only three upper teeth (733), 3|3 subject to palatal soreness and pocket formation, probably due to wearing the acrylic denture all night.

REVISED TREATMENT PLAN (Jan. 26, 1955).—

1. Gingivectomy 3|3.
2. Selective grinding.



Fig. 1.—Implant in situ.

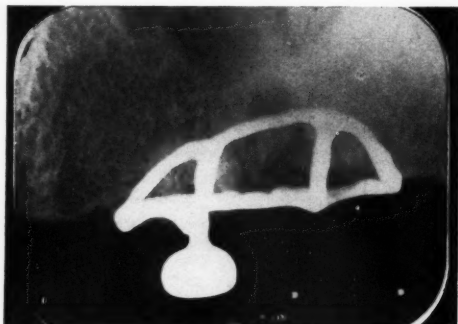


Fig. 2.—Radiograph showing implant.

3. Implant 17 region.

4. Partial chrome-cobalt upper denture.

TREATMENT.—

Feb. 22, 1955: Impression of upper left alveolus for implant.

March 18, 1955: Implant inserted (Figs. 1, 2).

April 4, 1955: Gingivectomy 3|3.

April 15, 1955: Preliminary impressions for partial upper denture.

Observations.—This case shows a chrome-cobalt subperiosteal implant to provide abutment for a partial upper denture.

A CASE OF SEQUESTRUM FORMATION IN VINCENT'S DISEASE

By R. J. G. DAY, B.D.S., L.D.S. R.C.S.

Department of Preventive Dentistry, Guy's Hospital Dental School, University of London

HISTORY.—Mr. S. E., aged 23 years, was referred to hospital on March 24, 1954, by his own dentist with a history of having been treated for painful ulcers in the mouth in January, 1954. According to the dentist the condition cleared up but the ulcers returned towards the end of March. Diagnosis of Vincent's disease was made by the dentist, who treated the ulceration with chromic acid and hydrogen peroxide applied locally and penicillin lozenges. The patient complained of pain in 23 region and tenderness to percussion 2.

ON EXAMINATION.—Typical ulceration of Vincent's disease was present around 3|3; 2 was acutely periostitic. A small soft swelling about the size of a pea was present at the junction of the alveolar mucosa and attached gingiva between 2 and 3 (Fig. 1). There was no clinical

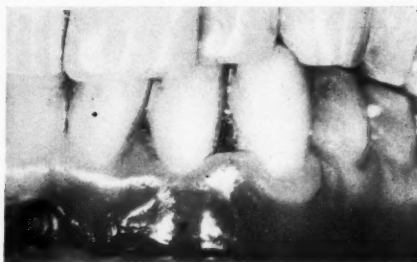


Fig. 1.—Appearance of periodontal abscess 23 on first examination.

pocketing around these teeth. 4|4 were vital and gave similar responses to hot and cold and electric pulp tester. X-ray appearance was normal (Fig. 2).

DIAGNOSIS.—Vincent's disease with periodontal abscess 23.

TREATMENT.—The Vincent's disease was treated with an application of chromic acid and hydrogen peroxide, instruction was given in oral hygiene, etc., and the patient was instructed to chew penicillin chewing gum for 48 hours. Hot saline mouthwashes were prescribed for the periodontal abscess. The abscess diminished in



Fig. 2.—X-ray appearance on first examination.



Fig. 3.—X-ray showing sequestrum 23.



Fig. 4.—Sequestrum exposed by reflection of buccal flap.

size and after two weeks a sequestrum was visible interdentally, both clinically and also on the X-ray (Fig. 3). The sequestrum was removed by a type of flap operation, buccal and lingual flaps being reflected (Fig. 4). The cementum was scraped and the epithelial attachment removed. The two flaps were then trimmed and sutured interdentally. The interdental space was afterwards protected with a zinc oxide, oil of cloves, and cotton-wool pack. This pack was removed after four days. 23, which were then very loose, were splinted with soft stainless steel wire and ground out of occlusion (Fig. 5). They had tightened considerably after two weeks when the splint was removed, and were quite firm within one month.

Discussion.—Presumably bacterial toxins and/or chromic acid caused necrosis of a fairly large part of the interdental alveolus and a periodontal abscess formed without clinical pocketing. The necrosis of alveolar bone in

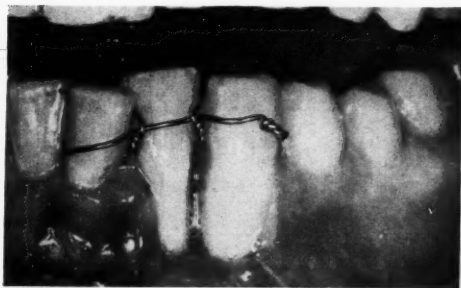


Fig. 5.—Temporary splint of stainless steel wire.



Fig. 6.—X-ray appearance 23 one year after treatment.

Vincent's disease is not often seen in this country.

The patient is able to keep the interdental space between 23 quite clean with a soft wood point. A little re-attachment has occurred (2 mm.). The teeth are still quite firm despite considerable loss of supporting tissue (*Fig. 6*).

A CASE OF ADVANCED PERIODONTITIS COMPLEX

By R. D. EMSLIE,

M.S., B.D.S., F.D.S. R.C.S.

Department of Preventive Dentistry, Guy's Hospital
Dental School, University of London

HISTORY.—Mrs. A. H., aged 30 on first attendance in May, 1952. Spacing between some of the anterior teeth had been noticed during the previous 18 months. No relevant medical history.

ON EXAMINATION.—Pockets of irregular depth were present around many teeth. Full mouth radiographs revealed "vertical" bone resorption (*Fig. 1*).

DIAGNOSIS.—Periodontitis complex (probably on a basis of periodontosis). Lack of lip-seal appeared to be a contributory factor.

TREATMENT.—After preliminary scaling, $\frac{7}{6}$ were extracted. When scaling and polishing had been completed a gingivectomy was performed in the $\frac{21}{1234}$ region on July 11, 1952. After removal of the packs

seven days later good oral hygiene was maintained by the use of soft-wood points and a soft toothbrush. For some months the patient applied adhesive strapping across the centre of the lips to maintain a lip-seal at night. In December, 1953, a removable splint denture to provide fixation for the loose teeth was constructed by the Department of Dental Prosthetics (*Figs. 2-4*). To improve the appearance a removable acrylic veneer to cover the upper labial gingivae and necks of the teeth was fitted in February, 1954 (*Figs. 3A, 4*). Adequate retention was obtained by extending the veneer to the distal side of the canine teeth. To resist wear in these regions short embrasure clasps of gold were incorporated within the interdental extensions. The realistic stippled effect was obtained by the use of stippled tin foil upon which carmine red had been deposited. This was lightly burnished on to the veneer in the wax stage. The carmine red was thus incorporated in the surface of the acrylic and limited amounts were removed during polishing to simulate the natural blanching over the roots of the teeth. This "tinted denture foil" (King, 1954) should soon be obtainable through the dental trade. Since February, 1953, the patient has resided abroad but has returned for scaling and polishing during her visits to this country. During one of these in June, 1953, subgingival curettage in $\frac{43}{34}$ regions was carried out, with some reduction (measured clinically) in the depth of the pockets. Despite good oral hygiene, which has included removal of the veneer and splint denture immediately after every meal for cleaning, shallow surface caries of the exposed dentine of the upper anterior teeth has developed. Up to the present time it has been possible to remove all this caries during scaling with little destruction of tooth tissue, but the future control of this caries may present a problem.

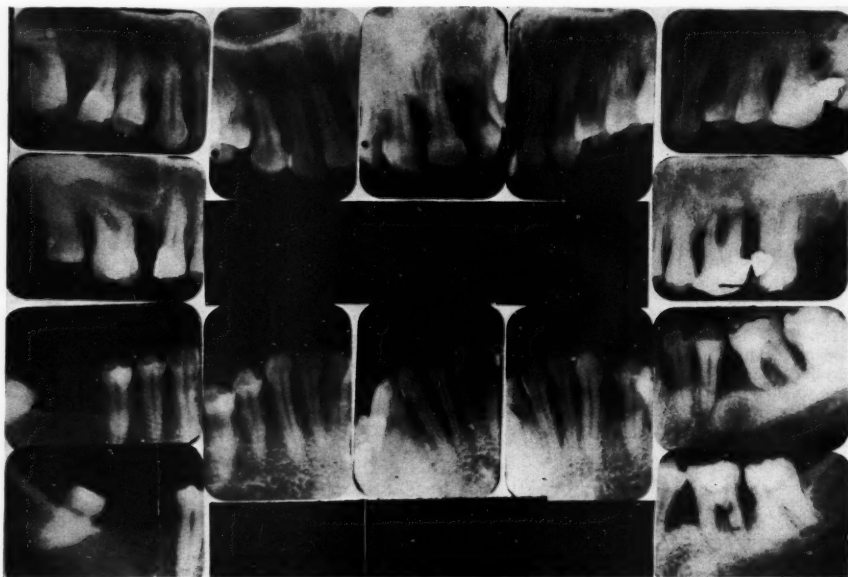


Fig. 1.—Intra-oral radiographs showing regions of 'vertical' bone resorption.



Fig. 2.—Appearance after gingivectomy with splint denture in position.

Discussion.—Advanced cases of periodontitis complex which have probably commenced as periodontosis may often be treated satisfactorily if the hopelessly involved teeth are



Fig. 4.—Appearance with acrylic veneer and splint-denture in position.

RECURRENT POSTERIOR SUBLUXATION OF THE RIGHT TEMPOROMANDIBULAR JOINT TREATED WITH A BITE-RAISING APPLIANCE

By J. A. PEDLER

M.D.S., F.D.S. R.C.S., L.R.C.P., M.R.C.S.

The London Hospital Dental School, University of London

HISTORY.—Miss M. S., aged 31, first attended The London Hospital in August, 1953, complaining of two years' "clicking" of the right temporomandibular joint and "locking" of the joint, which had been occasional at first but was increasing in frequency up to seven times daily. Restoration of movement could be achieved by the patient's own unaided manipulations.

ON EXAMINATION.—Teeth present

87	5	321	123	78
8		4321	1234	8

 with mesial drift and/or inclination of the remaining posterior teeth with considerable closure of spaces. There was marked overbite of the incisors with the lower incisors completely obscured in position of occlusion (Fig. 1). The freeway space was grossly exaggerated and estimated as 8 mm. There was no deviation of the mandible on opening, nor any limitation of movement. A loud click could be heard as soon as the right condyle moved forward from its fossa, and a lesser click occurred on closure. Both condyles were readily palpable through the anterior wall of the external auditory meatus.

Radiographs during an episode of locking were unobtainable and views of the condyles in the open resting and centric occlusion positions showed no significant abnormality.

DIAGNOSIS.—Internal derangement of the right temporomandibular joint secondary to an exaggeration of the freeway space and overclosure resulting from premature loss of posterior supporting teeth. A temporary appliance of two acrylic bite-raising blocks joined by a stainless steel lingual bar was constructed and the height modified from time to time by grinding or the addition of quick-curing acrylic in the mouth.

Following reduction of height on two occasions the joint became locked and remained so, despite the patient's own efforts, for over 24 hours. On each occasion reduction was effected by downward pressure on the posterior teeth followed by anterior traction, i.e., the reverse of the usual manipulation for reduction of anterior dislocation. A snap and a loud click were immediately followed by reduction of pain and restoration of full



Fig. 3.—A, Acrylic veneer; B, Splint-denture.

extracted. It would seem that when these patients present for treatment the original cause of the bone resorption (periodontal degeneration?) is usually no longer operative, but the resorption will continue unless the secondary chronic periodontitis is eliminated. This necessitates removal of the pockets, which may require gingivectomy, flap operation, or subgingival curettage; and also fixation of loose teeth by some form of splinting. The removable splint denture of the type described by Fish (1952) is often the most convenient method of splinting, although it is contra-indicated in mouths which are susceptible to caries. A false gingival veneer which may be provided for æsthetic reasons inevitably causes food impaction and should be used only when oral hygiene is perfect.

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movement. These findings appeared to confirm the opinion that the derangement consisted of the condylar head passing posteriorly over the edge of the disk to come into direct contact with the temporal bone, the step of

chalkiness of the enamel can be detected in the teeth covered, and fixed appliances are being considered.

REMOVABLE SPLINTS AND TRIFURCATION CLEANSING

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The successful treatment of an advanced case of generalized chronic periodontitis by means of scaling, gingivectomy, and splints was demonstrated.

The splinting was attained by means of removable chrome-cobalt splints designed to include all the teeth of both jaws (Figs. 1, 2).

A trifurcation involvement of 13 was treated by surgically exposing the involvement to enable the patient to cleanse and massage the area by means of a pipe-cleaner.

The use of this pipe-cleaner in the trifurcation was demonstrated by the patient.



Fig. 1.—Anterior teeth, showing deep overbite.



Fig. 2.—The bite-raising appliance.

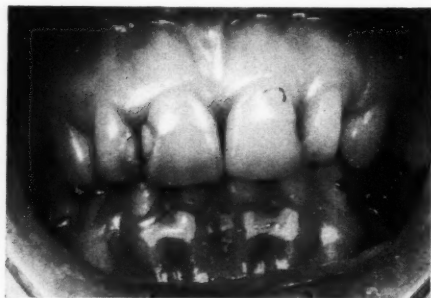


Fig. 3.—Bite-raising appliance *in situ* with teeth in occlusion.

the disk then preventing forward movement while the condyle lay against the lax fibres of the posterior part of the joint capsule.

TREATMENT.—A gold and acrylic bite-raising appliance (Figs. 2, 3) was constructed to reproduce the final height of the diagnostic temporary splint. This has now been worn for a year with complete comfort and all symptoms have disappeared. Unfortunately, although a high standard of oral hygiene has been observed, a slight

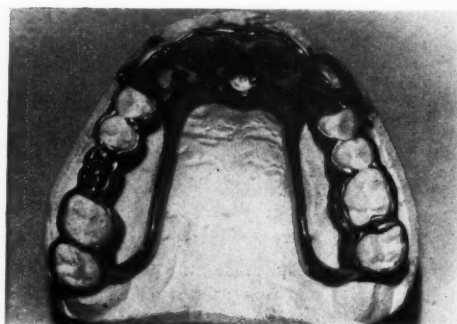


Fig. 1.—Splint for maxillary teeth.

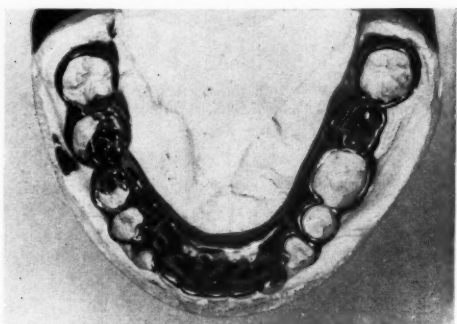


Fig. 2.—Splint for teeth of mandible.

PARLIAMENTARY NEWS

MR. IAIN MACLEOD (Minister of Health) moving a £3,007,000 supplementary estimate for the National Health Service in the Commons on Tuesday, July 12, referred to the refund of the 10 per cent cut in dentists' remuneration.

The 10 per cent increase was an interim measure while he worked out a new scale—a complicated affair—with the representatives of the dental profession.

Under the new arrangements the average dentist would receive a net annual income including super-annuation contributions of about £2000. The dentists in the 35-54 class, working without assistance, it was calculated would receive a net income of rather more than £2,400.

Mr. A. Blenkinsop (Lab., Newcastle upon Tyne E.) from the Opposition front bench, said this was one of the measures which had been made inevitable by the introduction of charges in the National Health Service. These charges had hit certain sections of the dental profession more severely than others.

"I am sorry that the opportunity does not seem to have been taken of a much more thoroughgoing review of the position about the payment of dentists. Many of us take the view that the whole basis of payment of dentists, that of payment for individual services rendered, is open to a good deal of objection, and I should have been glad if some investigation had been made to see whether it is possible to get on to a basis of sessional payment or something of that kind for at least the conservative type of treatment, which we are all anxious to encourage.

"I am assuming that the Minister hopes that this restoration of the 10 per cent cut will do something to arrest the rather alarming decline in the number of dentists in practice and the expectation that we must have a very much more serious decline in their numbers in the next few years.

"That it is a really serious matter there is no doubt. The Central Health Services Advisory Council make it quite clear that there is an overall shortage of about 8000 dentists as against the total who could and who ought to be in practice if we are to have the dental service we need. It is more serious even than that, because about 40 per cent of the practising dentists are 55 years of age or over. I suggest that that indicates that there will be quite a rapid decline in the numbers in the next few years.

"The problem is made much more serious by the fact that if we are to build up a proper dental service we must recruit a large number of new entrants to the dental schools. It has been said that about 900 new dental students are needed each year, but at present we are getting only about 450 new entrants. Does the Minister feel that this restoration of the 10 per cent cut would improve our prospects of getting new recruits?

"I am very doubtful whether it will be of very great value in that respect. It is important to look not only at actual payments but also at what one might almost call professional prestige. Interesting proposals were made by the hospital boards for the development of specialist dental sections. I should like to hear from the Minister that he thinks it of the very greatest importance that dentists should be given a rather better status at hospitals. They need to feel that there are avenues of advancement, if they wish to take them, into such specialist work as orthodontics.

"We must regard the present position as very critical and we cannot wait long for the information from the expert committee which has been set up by the Minister. In fact, unless something is done rapidly we may face a breakdown of our dental services simply because there are not nearly enough dentists to provide the services we need . . . and none of us can imagine for a moment that our standard of dental care is anything to be particularly proud of.

"A very great deal needs to be done and perhaps the greatest job to be done by the Minister is the encouragement of research and health education. A great deal can undoubtedly be done in the home. Were sweets not quite as available as they are dental health might be a great deal better—although I should certainly get into trouble with my own family were I to suggest any reduction in sweet production and consumption. Nevertheless I very much hope that the Minister will say that he has in mind the need for a vigorous campaign for dental health education and will do his best to support the dental profession in this work. I am sure, also, that that profession is only too eager to do what they can to help.

"In these circumstances I do not understand why such valuable work as that done at the Eastman Dental Clinic in training dental oral hygienists has not been supported.

"Amongst other support for such work the last annual report of the Minister's own department referred in glowing terms to the work being done by oral hygienists and I was rather surprised when the training was brought to a sudden stop.

"I hope very much indeed that what I regard as a very serious situation will be attacked with vigour by the Minister and that he will not regard this restoration of the 10 per cent cut as a major means of meeting the difficulties that lie ahead. I should like him to look again at the whole position of dental payments and not to rule out of his consideration the effect of the charges for dental treatment. I feel that these charges have a serious effect in limiting the demand that is made for treatment and in addition create difficulties for dentists in the proper practice of their profession."

Dr. Barnett Stross (Lab., Stoke-on-Trent, C.) said he was very glad this sum of money had been restored to dentists. "I agree that as a result of the charges which were imposed some years ago dentists have found their gross remuneration severely affected and if the restoration of the 10 per cent will increase the average remuneration to say £2000 a year net I regard that as reasonable.

"I should like to know whether there is any prospect of more recruitment. We hope that within 20 years there will be 20,000 practising dentists. To-day the figure is about 9500. The number of students is falling year by year. The peak, which was reached in 1947, was 650. To-day the figure is about 470.

"Then there is wastage to be considered. If we take the present number of students in the country as about 470 we have to remember that about 10 per cent come from abroad and therefore when they qualify they will not practise in this country. Therefore the situation is desperately serious.

"I want to know what is the difficulty about recruitment? Why cannot we get more young people to go to the dental schools? Obviously there are places for them. It is not that we need more schools to accommodate

them. I assume that the Minister will agree that one of the reasons for the increase in salaries is to obtain better recruitment for the sake of the service as a whole. Has he noticed the wonderful field for recruitment to the profession among women?

"Only 6 dentists out of every 100 are women, both in the schools and in practice. I see no reason for assuming that women cannot be as good dentists as men. For all I know they might even be better. There must be some strange reason why they are not entering the profession, and it may well be financial.

"Has the Minister considered that local authorities vary greatly in respect of the assistance which they offer to young people who are accepted into the dental schools? Some are much more generous than others.

"Will the Minister therefore consider whether young people who wish to become dentists ought not to have, in addition to any other source of income, opportunities to receive assistance from the Ministry by way of loans to be repaid. Only a small sum would be needed, £50,000 might easily cover it. They could draw on that fund and it would be replenished by repayments after they had qualified.

"If the Minister would introduce such a fund I am sure that in the long term we could solve the problem of getting enough dentists to serve our needs. To-day we have not enough I am sure we are all disturbed about that."

Mr. John Baird (Lab., Wolverhampton, NE.) disclosed an interest as a practising dental surgeon.

"The decline in the number of dental students is very serious and if it continues in a short time we shall not have enough dentists in the country even to carry out the ordinary routine dental practice.

"I do not think that remuneration is the main reason for the lack of dentists at present. I believe that a net income of £2000 is an adequate income for a professional man. We are told that the average income of dentists to-day ranges from £1800 to £2200. With this increase the average will be about £2000. For the dentist in his most virile years the income will be at least £2400. I do not want to tread on anybody's toes but in some professions there is some undisclosed income and I do not know whether there is any such undisclosed income in dentistry. If there is a dentist might be making a little extra on the side.

"In my opinion the major reason for the lack of recruitment to the dental profession has been the vacillation of both sides of this House. First there was the chopping and changing of dentists' incomes and then the imposition of charges. Dentists did not know where they were from one day to another until a few years ago.

"The second reason is that dentists are very bad publicists. In order to try and increase their incomes they tried to tell everyone how hard up they were. It was a lot of boloney, because dentists were never hard up but were doing well all the time. By carrying on that type of propaganda they did the profession very much harm. I believe that openings exist for young people in the dental profession where a man of ability and agility with his hands and certain academic propensities can make a very attractive income in fairly comfortable surroundings.

"The sooner we start publicizing the attractiveness of dentistry the better it will be for the profession and the country as a whole.

"There is, however, something wrong with our values. A few months ago we agreed to the Danckwerts Award

whereby we gave doctors between £9 millions and £10 millions a year.

"Tonight, without any ripple of opposition and with the benches almost empty we are agreeing to pay another £3½ millions to 9,500 dentists. As a practising dentist I can tell the committee that to a dentist now making £2000 a year that means an increase of £5 to £8 a week in personal net income, not gross.

"But when railwaymen or engineers ask for a few bob a week more we have a discussion in the House and the benches are full, and Conservative members say they are holding the country to ransom. There is surely something wrong with our sense of values.

"I suggest before we grant this increase of £3½ millions to dentists it might be a good thing if we set an engine driver to adjudicate and decide whether the dentists deserve it. I believe that would be a much better way of dealing with the matter.

"I quite agree that when the cut was introduced it was said it was a temporary cut until a new scale of fees could be negotiated with the dentists. Why has it taken all this time to negotiate a new scale of fees with the dentists? We have gone on year after year and dentists have been grumbling and complaining. They did not want just the 10 per cent cut restored but a new scale of fees, and year after year they have been put off. Now we have the 10 per cent restored on condition that a new scale of fees is negotiated. Why was that not done three or four years ago? There is hardship in certain parts of the dental profession. Some people are to-day suffering financial hardship but I do not believe that the restoration of the 10 per cent cut will solve the problem. By giving back the 10 per cent to the dentists we are giving a 10 per cent increase to all dentists.

"There is no hardship among all dentists. There is hardship only among dentists in certain pockets of the country. These pockets are in industrial areas. This hardship is not due to the imposition of a 10 per cent cut in the overall income of dentists a few years ago, but it is because Mr. Blenkinsop, Mr. Marquand, and Mr. Macleod have imposed charges in the Health Service. As a result of imposing those charges a large number of people who were getting free dental service could not afford to pay the £1 or the fee for dentures. This is why in the industrial and poorer areas the dentists are hard up.

"If we are to make an improvement in the areas where dentists are suffering hardship, the way to go about it is to remove the charges in the Health Service."

Mr. Baird continued: "May I make one or two practical suggestions to the Minister? He is now entering negotiations with the dentists on the scale of fees. Some years ago, he and I crossed swords more than once on the question of the school dental service. At that time, I said that he would never get an efficient school dental service because he wanted two or three thousand dentists to operate it. I still say that.

"I believe that the future of children's dentistry lies with the general practitioner until we get our health centres. The ordinary general practitioner as a whole will not be encouraged to develop the children's side of his practice until he is paid a decent fee.

"If any hon. Member came to me to have a filling done, I would receive a fee varying from 15s. to £1 2s. 6d. per filling. It would take me perhaps 20 minutes to do the filling. A young child between say the ages of 5 and 8, that is when we need to start treating children's teeth, who comes to me for treatment is nervous.

"He is afraid of the dentist, of the dental chair, and of the engine, as he calls it, and the noises it makes. I have to spend five minutes talking to him, preparing him, and very often I have to spend twice as long in doing the filling, for which I receive 7s. 6d. The average fee for grown ups varies between 15s. and £1 2s. 6d. We can say that the average is £1 a filling, whereas for filling a child's tooth the fee is 7s. 6d.

"We made a lot of mistakes in our first scale of fees. If the Minister wants the dentist in his practice to treat children's teeth, he must ensure in the negotiations that the fees for children's dentistry are raised even though this means reducing the fees for adult conservations."

To-day it did not pay dentists to do denture work, and in the industrial areas dentists were really hard up. In the coming negotiations, he hoped, the balance would be brought over a little the other way.

As restoration of the 10 per cent cut had been promised, Mr. Baird did not propose to oppose the estimates.

"At the same time I would say that this House has a very queer sense of values if it passes this tremendous increase in income to the dentists at the same time as there is a terrible hullabaloo when we say that we should increase the income of engine-drivers on the railways by 3s. or 4s. a week."

Mr. Iain Macleod (Minister of Health) replying, referred to the new scale and how it was being worked out.

"What we have done is to take the year 1952-53, because that year was used for our detailed investigation, and we have so arranged matters from investigation that the total fees that would have been paid in that year if the 10 per cent cut had not been in operation shall be redistributed by the new scale of fees for the amount of work that was actually completed in that year.

"We are hoping in the new scale to give greater weight to dealing with children's teeth and I am sure that we have the co-operation of the profession in working that matter out."

The Minister thought the restoration of the 10 per cent cut would help. "Whether rightly or wrongly, this cut has been regarded by dentists as a five-year breach of faith by Ministers of Health of the parties on both sides of the House. The fact that it has now been restored will remove a very deeply felt grievance, and to that extent it is bound to help.

"Research and education are matters which I have very much at heart, and the committee will know that very recently I issued a circular which achieved the distinction of a fourth leader in *The Times* for its reference to lollipops.

"I should like to join with other members in coalition against Mr. Baird in his views on oral hygienists—and perhaps a certain legal measure which has pursued a strange career in recent years might in future reappear."

Mr. Macleod added that recruiting was very much in his mind and that was why the McNair committee was set up. "It is worth noting that entrants in England, Wales, and Scotland last year numbered 478, a figure very much higher than that in previous years. I do not know whether that trend will continue.

"There is no easy answer to the question of recruitment and recruitment by no means turns entirely on remuneration. The decline started in 1948-49 when the dentists were earning large incomes and I am sure that it is very closely linked with matters of status."

He thought Mr. Baird was illogical in complaining of the casual way in which the new provision was being introduced, while at the same time grumbling that a long time had been taken to make the necessary investigation.

It was true the investigation took a long time, but the Public Accounts Committee had often expressed itself strongly about the need for full investigation before advances were made.

He did not agree with Mr. Baird about the school dental service. "I think that it is going very well. Last Friday a county dental officer told me that in 1950 he had 4 dental officers and now he has 19. That has made a substantial difference to the dental health of the children."

Mr. Baird: "Would you say that is typical of the country as a whole?"

Mr. Macleod: "No, it is not, but I should have thought we are as near, proportionately, to the number of 2,000 and 3,000 we need in the school dental service, as we are to the number of 30,000 that we need in the general dental service; indeed, 40,000 is a figure I have sometimes seen mentioned."

It was right this interim measure should be undertaken and the cut restored. He hoped the McNair committee would look on its work as a matter of urgency.

Mr. Stan Awbery (Lab., Bristol C.): "In view of the fact the Minister has now agreed to deal generously with the dentists, and restore their 10 per cent cut, can we express the hope that the dentists will deal generously with their mechanics because the mechanics suffered equally with the dentists when the reduction took place?"

There was no reply.

The supplementary estimate was approved.

Speaking in the Commons on Monday night, July 18, regarding a supplementary estimate of approximately £360,000 for dental practitioners in Scotland, Mr. W. Ross (Lab., Kilmarnock) said—"What is the result if we pass this Vote to-night increasing the salaries by £360,000 of the general practitioners and dentists in Scotland? What effect is that going to have on the school dental services. No one can tell us that the school dental service is adequately carried on at the present time. Indeed there is evidence that there are counties in Scotland which do not possess a school dental officer at all. There are many in which the work is being scantily done. Although there may be a certain improvement there is certainly no room for complacency.

"I certainly do not grudge the dentists their extra salary—as long as they do not grudge me mine occasionally—but I am concerned about what may be the effect of this if there is no change in the position regarding the school dental services. It is not as if the dentists had a hard year last year, because I find that last year, although the number of courses went up by 7 per cent, run by the dentists outside the service, the actual earnings of the dentists rose from £2,954,000 to £3,199,000. In other words, for every single person in Scotland, man, woman, and child, last year, it cost us 12s. 6d. to pay the dentists, whereas the year before it was only 11s. It cost us 1s. more . . . Their earnings increased by 8 per cent. That was just under a quarter of a million pounds and here we are now giving them, in this supplementary estimate, an additional 8 per cent increase in their earnings. I think we require more justification from the Under-Secretary than the justification which we got the other day from the Minister of Health who said this was

a matter of arrangement, that the scale of fees had been cut by 10 per cent and that there was to be a negotiated new scale of charges. What is the justification for this increase of £360,000? Is it a recognition that, originally, when the cut was made in the earnings of the dentists there was an injustice done to them or is it once again a recognition of the fact that in the last four years the Government have failed to keep down the cost of living?

"I think this requires a considerable amount of strong conviction and persuasive oratory from the Under-Secretary to convince us (a) that he is doing the right thing, and (b) that he failed to let the people of Scotland know a month ago that this was in the minds of the Government."

Mr. Emrys Hughes (Lab., Ayrshire S.): "I think Mr. Ross has once again done a service to the House and to Scotland by calling attention to the supplementary estimates because if any estimates deserved to be thoroughly scrutinized, it is these supplementary estimates that the Minister hopes to get through quietly in a half empty House, and yet we know that some of these estimates deserve a great deal of scrutiny. And those of us who are used to the very careful way in the Scottish local authorities, where we examine in detail every estimate of this kind that is handed on to the ratepayers and taxpayers, why, we would be failing in our duty if we did not have a statement from the Minister on supplementary estimates of this kind."

"I would like to ask a question about this sum that is going to be given to dentists. Does it include, for example, when the dentist sends in his bill, the cost of the equipment that is used in the dental surgery? And during the Election my attention was drawn to the fact that one of the greatest monopolies in this country was the apparatus which is necessary for the extraction of teeth."

"The Minister who has just spoken has painted a picture of old women frying eggs, but I think next he will come along with a Picasso painting—a picture of dentists extracting teeth (*Laughter*).

"I would like to ask him what steps is he taking to get these estimates reduced? If the chair, for example, that is used in the dental surgeries, or the forceps with which the dentists extract the teeth, or the various other instruments used in modern dentistry—is he aware or can he deny that nearly everything that is in a dental surgery is price-controlled by one gigantic monopoly, and, if he is prepared to reduce the price of material that is used in the dental surgery, would this amount that he is asking in the supplementary estimates be so large. I think we are entitled to have reassurances on these points."

Mr. J. N. Brown (Joint Parliamentary Under-Secretary of State, Scottish Office), replying, said: "I am very glad to be able to reply about this supplementary estimate which does precisely for Scotland what the Dental Estimates Clause 5, Vote 5, do for England—the restoration of the 10 per cent cut in dentists' fees with effect from May 1, 1955."

"The Hon. Member for Kilmarnock did not seem to be quite sure whether he approved or disapproved of the cut. He said he did not mind the dentists getting more and then started to imply that he did not want the dentists to get what we believe is a Square Deal."

Mr. Ross, intervening: "We are on the Report stage and I have to speak before I hear the Government reply. Perhaps if he had spoken first, his powers of

oratory are such that I probably would not have spoken at all."

Mr. Browne: "If you had asked me to speak first I certainly would have done so."

Continuing, Mr. Browne said: "The restoration of the cut was made as a result of the United Kingdom negotiations carried on by the Health Department with the British Dental Association and the increasing scales was, therefore, a matter for arrangement. If there was injustice, and I am not going to argue that, there was a careful examination over a long period, a period which started before the last Election. It showed that the restoration of the cut was justified. To answer the specific question, there are about 1175 National Health Service dentists in Scotland. The average increase in their remuneration will be about £350,000 odd. Lastly, as far as the school dentists are concerned, we do not accept that there will be any adverse effect because of this comparatively small increase in the salaries of the dentists."

The supplementary estimate was agreed to.

BRITISH HELP FOR NEW NIGERIAN TEACHING HOSPITAL

British hospital doctors, dentists, nurses, and other professional, technical, and administrative staff who accept employment at the University College Hospital, Ibadan, Nigeria,* will not lose their National Health Service superannuation rights. This is the result of a direction made by the Ministry of Health under the National Health Service (Amendment) Act, 1949.

This is the first time that specific provision has been made for employment in a hospital outside England and Wales to carry with it Health Service superannuation.

The step has been taken to remove this possible impediment to the recruitment by the hospital of appropriate British staff.

The new direction, which came into operation on June 23, applies to those who accept employment with the University College Hospital, Ibadan, for not longer than six years and who have been employed by a Regional Hospital Board or Board of Governors within the previous twelve months.

* University College Hospital, Ibadan, is being set up by the Nigerian Government as a teaching hospital and represents the most important single enterprise of its kind in British tropical Africa. It will be opened in 1956 or 1957 and for some years will be dependent on recruitment from the United Kingdom for filling a large number of its higher professional technical and administrative posts.

BOOK REVIEWS

THE STORY OF DENTISTRY. From the Dawn of Civilization to the Present . . . with special emphasis on the American Scene. By M. D. K. BREMNER, D.D.S., F.A.C.D., Special Lecturer on Dental History at Tufts Dental School, Boston, Mass.; etc. Enlarged third edition. 6 × 9 in. Pp. 462 + xviii. Illustrated. 1954. (Brooklyn, N. Y.: Dental Items of Interest Publishing Co., Inc.). London: Henry Kimpton. 56s.

THE fact that a third edition of Dr. Bremner's book has been called for within five years of its original appearance shows that it fills a real need. *The Story of Dentistry* is not a source book or a work of original historical research. The author's aim was, as he states in his modestly worded preface, to produce a short book that would be entertaining and not require too much concentration. In this purpose he has succeeded, for he has written a most readable account of dental history from the earliest times. As he is writing primarily for American readers, he naturally devotes a relatively large amount of space to the origin and progress of dentistry in the United States; his chapters on the early Colonial period, on professional journalism, on dental organizations, and on the rise of the dental schools of America are among the best in the book. Dr. Bremner writes with special authority on the history of dental ethics and on patent litigation. Some of the final chapters on miscellaneous themes, such as women in dentistry, mouth care through the ages, and some sidelights on the British scene are very good, and the biographical sketches of the great Greene Vardiman Black, Giuseppangelo Fonzi, and Levi Spear Parmly make fascinating reading.

Potential readers of this excellent book should not allow themselves to be put off by the publishers' "blurb" on the dust wrapper which refers to "throbbing, human interest stories" and "human interest material . . . written in the form of a fascinating novel". In actual fact, Dr. Bremner has not indulged in any fictional touches; he handles his

voluminous materials well and tells his story in clear, simple language. Even more unfortunate is the statement on the dust wrapper that "Sources of information were checked and double-checked to make certain that all statements were authentic". No one expects a work of this kind to be entirely free from errors of fact, but some of the mistakes in names and dates are so obvious that one wonders how they could possibly have escaped the proof-readers. On p. 79 the year 1775, given as the date of the Act of Parliament that separated the Barbers from the Surgeons, should be 1745. Thomas Berdmore (p. 124) lived in Racquet Court, not Rocket Court. The name of William Stewart Halsted is given as "Halstead" (pp. 203 and 447)—a mistake commonly made by British writers, but not expected from one of the famous surgeon's own countrymen. Karl Köller (p. 203) should be "Koller", and he introduced cocaine as a local anæsthetic in ophthalmology, not to facilitate examination of the throat. Rynd, as the researches of Dr. N. Howard-Jones have conclusively proved, did not invent the hypodermic syringe. The date of death of Giovanni of Arcoli is given as 1844—a misprint for 1484. Celsus lived in the 1st century A.D., but on p. 82 his date is given as 100 B.C. and on p. 332 as 30 B.C. The historian "Deodorus" (p. 381) should be Diodorus Siculus; "Gadesden" (p. 391) should be John of Gaddesden; on p. 382 we read of "Avicenca" and on p. 385 of "Galan". The great Ambroise Paré is described as a fifteenth-century figure, but his life fell entirely within the sixteenth century. Guy de Chaulic, who appears correctly in several places, becomes Guy de "Cahulic" on p. 385. On the same page asafœtida is stated to have been used by the prehistoric medicine man as a means of forcing the departure of evil spirits. This will be news to most medical historians, few of whom would claim to know anything about the *materia medica* of prehistoric man.

An excellent series of thirty-five portraits ranging from Fauchard and John Hunter

onwards includes one of Lucy M. Hobbs, who is said to have been the first woman dental graduate (Ohio Dental College, 1865) and the first woman to be elected to membership of an organized dental society. She practised for nearly sixty years. There is also a striking portrait of the late Sir Frank Colyer's teammate in the evaluation of oral sepsis, namely, Dr. William Hunter, Charing Cross Hospital, London. It is unfortunate for us that the title "Sir", by which the Americans repeatedly refer to Hunter, is one which—to our shame—never came to him. Certainly, Dr. Bremner makes us feel that our forthright colleagues in the U.S.A. respected more highly than was apparent at the time Hunter's outspoken attack on "American dentistry" with its "mausoleums of gold over a mass of sepsis".

The chapter under the title of "Some Side-lights on the British Scene" is a brief recapitulation of the development of dental education and practice in Great Britain from Charles Allen (1685) to the present day. This chapter ends with a lucid and sympathetic description of the launching, working, and effects of the National Health Services Acts (General Dental Services), and is remarkable for its manifest discernment of the intricate problem which now faces us here.

Dr. Bremner rightly claims that his book does not require the usual bibliographical documentation; nevertheless, the list of sources which he gives might have been made to conform to some accepted bibliographical style and he need not have been so sparing of dates and volume and page numbers. The index leaves much to be desired. The names of Joseph Fox and John Tomes receive honourable mention on pp. 396-7, but do not appear in the index. One of the most interesting sections in the book—that on the history of the toothbrush (pp. 387-9)—is not indexed at all. Although the key and the pelican are several times mentioned in the text, the former word does not appear in the index and only one reference is given for the latter. These errors and shortcomings detract little from the value of the book as an eminently readable account of dental history. The book

is packed with information—even Airdent is included—and it should be on every practitioner's bookshelf. It would be an improvement, however, in a new edition if the publishers were to enlist the aid of a British bibliographer, so that the invaluable information which the work carries may also be more accurate.

C. B. H.

ORAL PATHOLOGY. A Histological, Roentgenological, and Clinical Study of the Diseases of the Teeth, Jaws, and Mouth. By KURT H. THOMA, D.M.D., F.D.S. R.C.S. (Eng.), Hon. F.D.S. R.C.S. (Edin.), Professor of Oral Surgery, Emeritus, and Brackett Professor of Oral Pathology, Emeritus, Harvard University, etc. Fourth edition. $9\frac{3}{4} \times 6\frac{3}{4}$ in. Pp. 1536 + xviii, with 1594 illustrations (92 in colour). 1954. London: Henry Kimpton. £8 8s.

THE author is to be congratulated on a new edition of this well-known work on oral pathology. Apart from some re-arrangement of the chapters the new edition is essentially the same in form as the previous one, and in spite of the additional work published in the past four years the author has avoided any increase in size of the book.

This book remains the most comprehensive on oral pathology yet published, and though its size and price precludes its use as a textbook for undergraduate students, it is well suited to the postgraduate reading for a higher examination and is also an excellent reference book for the general practitioner.

The chapter on Caries has been almost completely re-written and expanded, and to allow for this the early chapters on Developmental and Structural Anomalies have been slightly shortened without detracting much from their value. It is a pity, however, that the tissue changes which occur in orthodontic movement of the teeth have been omitted from the chapter on Abnormal Occlusal Relationship of the teeth. A large part of the research work on caries of the past four years has been described, and Professor Thoma has made an excellent job of summarizing the present state of knowledge of this controversial subject.

Only a few lines have been devoted to the effect of self-curing acrylic resins on the pulp and this refers to work published in 1949 and 1951. The use of the newer antibiotics in the treatment of the impacted pulp is only briefly described, and possible complications of antibiotics used systemically could have been dealt with more thoroughly.

Goldman, who writes the chapter on Periodontal Disease, uses the new classification of the American Academy of Periodontology, and this is a considerable improvement on that used in the previous edition. Gingivitis is included in the classification, but no description of this condition is given in the text.

The illustrations throughout the book are excellent and enhanced by the addition of some beautiful colour photographs by Goldman on Pathology of the Oral Mucosa.

It is regretted that the price has risen so steeply, but those who do not possess a third edition will find it a worthwhile investment.

A. C.

BLACK'S OPERATIVE DENTISTRY. Revised by ROBERT E. BLACKWELL, D.D.S., M.S., Professor Emeritus of Operative Dentistry Northwestern University Dental School. In two volumes. $10\frac{1}{4} \times 6\frac{3}{4}$ in. Vol. I, Pp. 356 + xiv, with 310 illustrations. Vol. II, Pp. 458 + xiv, with 620 illustrations. 1955. London: Henry Kimpton. £9. Vol. I, £4; Vol. II, £6.

THIS new edition has been revised by Blackwell with the assistance of Leonard Fosdick, George Teuscher, Kenneth Bignall, and Eugene Skinner. The first volume deals with the pathology of the hard tissues and oral diagnosis and the second with technical procedures and the chemistry of the materials which are used in operative dentistry. Volume I has not been appreciably altered and begins with a chapter on diagnosis which is followed by chapters on embryology of the teeth and the pathology of all diseases of the hard tissues of the teeth. The section of the aetiology and clinical features of dental caries which has been revised by Fosdick is particularly instructive and is interestingly written. The treatment of hygiene and prevention of diseases of the teeth is up to date and very well done. The chapter

which discusses oral diagnosis comes at the beginning of this volume. Since diagnosis requires a knowledge of the development, the anatomy, and the pathology of tissues, this chapter would have been better placed at the end of the volume following the chapters which deal with normal and abnormal conditions.

Volume II contains most of the material which made previous editions famous. The sections which deal with the chemistry of the materials used in operative dentistry, the treatment of the deciduous and permanent dentitions, the restoration of teeth with amalgam, gold, silicate cement, and acrylic resin are of high quality. The immediate separation of teeth which are to be restored with a Class II or III restoration is, however, advocated. Many authorities strongly disagree with this treatment and there are not many practitioners who still follow this teaching. Whilst the authors give good reasons for separation, it will be generally agreed that if this is practised by any but the most careful operators many teeth will be lost and not saved.

The more recent advances in operative dentistry have been included and good descriptions of the hydrocolloid technique for taking impressions for inlays and the restoration of anterior teeth with self-curing acrylic resin are in this new edition, however, the indirect method of taking impressions with composition and the treatment of fractured teeth could have been given more space. A description of the copper forming of dies would have brought this book more in line with other modern books on operative dentistry. The authors are wise to reserve their judgement on the rubber-based elastic impression compounds which have not been used enough for all their qualities to be assessed in clinical practice.

The new edition of *Black's Operative Dentistry* will be welcomed by those practitioners who are especially interested in conservative dentistry and will be useful to students as a book of reference, but before buying it (it is expensive), they should realize that it does not cover crowns and bridges or root-canal therapy.

E. L. H.

Pregnancy in relation to Dental Health

Teeth are affected by environmental factors; systemic conditions cannot alter the structure of fully-formed teeth. The pH of the saliva

child lives the teeth usually show the characteristics of the disease.

During birth the child may be injured through muscular contractions or instrumentation and the injuries may affect the mouth. At birth the child suffers an abrupt change in the physiology of its organs: at this time there is a temporary cessation of growth. The neonatal line in deciduous teeth is a manifestation of this change. It is an accentuated incremental line showing the stage of formation of the dental matrix at the time of birth.

The relationship between mother and child is such that the extent of calcification of the teeth at birth being negligible larger amounts of calcium and phosphorus are required during lactation than during pregnancy.—ROGERS, B. C., and KEAN, M. R. (1954), *N.Z. Dent. J.*, **50**, 175.

Studies in the Regeneration and Reattachment of the Supporting Structures of the Teeth

Reattachment is one phase of a larger problem, viz.: the regeneration of the supporting structures of the teeth lost during the course of periodontal disease.

The canine teeth of dogs with healthy gingival tissues were used. A groove was cut into the teeth 1 mm. from the gingival margin—this was used as a point of reference from which the level of the gingival sulcus or pocket could be measured, and consequently the levels of gingival recessions and of reattachment of the gingival flap. This flap, when made, exposed the alveolar bone free from periosteum. Then a section of bone and periodontal membrane—7 × 6 mm.—was removed and the tooth exposed. The detached flap measured about 9 mm. from the bottom of the gingival sulcus and 12 mm. from the groove on the tooth. Scaling was sometimes carried out and the flap was sutured in place.

By means of a graduated probe the level of the bottom of the gingival sulcus was measured from the groove in the tooth before operation and again at the end of the healing period. The dogs were sacrificed at various intervals from 5 days to 1 year and blocks removed for sectioning.

ABSTRACTS*from Other Journals*

remains within normal limits and the incidence of caries is not significantly higher during pregnancy.

Estrogen stimulates the growth of epithelium and inhibits the growth of mesenchyme. In pregnancy there is a tendency for these effects to occur in the oral epithelium, and they tend to become apparent if the gingivæ are irritated. Calculus may be such an irritant to the epithelium of the gingival crevice, and then bleeding occurs. Because of the bleeding the teeth do not get brushed, and the gingivæ become softer, bleed more and a vicious circle is produced. Treatment is directed at removing the irritant, and perhaps the prescribing of vitamin C. Pregnancy tumour, resulting usually from the superimposition of the effects of pregnancy on an established gingival hyperplasia, has to be removed surgically.

Inorganic salts may be removed from the alveolar process in the later months of pregnancy if the diet is deficient in calcium, phosphorus, or vitamin D.

In regard to the condition of the dental tissue during pregnancy, oral sepsis may be all the more dangerous because of the possibility of abortion and pyelitis.

Dental treatment should be avoided during the first three months of pregnancy; the most suitable months being the fourth and seventh. Should extractions be necessary nitrous oxide is to be avoided.

The fœtus is a parasite and its well-being depends on that of the mother. In congenital syphilis the fœtus may be infected by either parent but usually by the mother via the placenta. If abortion does not occur and if the

The following conclusions were drawn from the experiment:—

1. Connective-tissue reattachment of the gingival tissues to the tooth by a deposition of new cementum was repeatedly obtained.

2. Uneven resorption of cementum and dentine may take place prior to cemental apposition.

3. New cementum may be laid down on the old cementum or on dentine.

4. In the reattached gingiva, the connective-tissue fibres run in a direction parallel to the tooth rather than in the characteristic oblique or horizontal direction.

5. The oral epithelium appears to proliferate downwards when reattachment fails but not when it takes place.

6. Some regeneration of alveolar bone occurred.—LINGHORNE, W. J. (1954), *J. Canad. dent. Ass.*, 20, 620.

Fluoridation of Domestic Water Supplies

The Council of the Royal College of Surgeons and the Board of the Faculty of Dental Surgery have issued a report which is now to be submitted to the Minister of Health following his request that consideration be given to the question of putting fluoride in water for this country.

1. The Board is satisfied that the incidence of dental caries is much less among children and adults who have spent the whole of their prenatal and postnatal life in an area where the drinking water naturally contains fluoride at a level of one part per million or more, than among those in areas where the water is practically free from fluoride.

2. A 40-50 per cent reduction in dental caries occurs in those areas where water has fluoride in it.

3. An occasional white fleck on the enamel is produced, but this cannot be detected without expert dental examination and it is found only in about 10 per cent of children.

4. There is no scientific evidence of toxicity or of harmful effects in districts where the water supply is fluoridated at this level.

5. There is very strong evidence in support of fluoridation and the Board welcomes the proposal that this procedure should be adopted

in the first place in some selected districts that can be used as study centres.—*Brit. med. J.*, 1955, 1, 535.

Choice of Anaesthetic

Asking about the best anaesthetic for children in the column "Any Questions", and whether the child should receive a general anaesthetic at home during the winter when there is an open fire in the room, the following answer is given:—

The choice of dental anaesthetic for young children varies from single dose of ethyl chloride for the simplest extraction to endotracheal anaesthesia, with nitrous oxide and oxygen, with an adjuvant for long operations. The latter would be quite unsuitable in domiciliary practice. Explosive mixtures should not be administered in the presence of an open fire. Chloroform is inadmissible because of its special pharmacological dangers. It is preferable to administer all anaesthetics in a room without an open fire. If, however, the anaesthetic is to be given in the patient's own room all the sources of danger of ignition should be removed. Quite apart from the explosion risk the difficulty of avoiding and treating the by no means rare anaesthetic hazards of overdose, inhalation of vomit, and respiratory obstruction, in a private house is very great. The death of a child in these circumstances would be difficult to excuse merely on grounds of expediency.—*Brit. med. J.*, 1955, 2, 554.

MEETINGS OF TEACHERS OF PERIODONTOLOGY

The fifth meeting of Teachers of Periodontology was held at the Locarno Club, Glasgow, on July 4, 1955.

The items which were discussed included instruments, the scope and extent of the undergraduate course, the examination of the student in periodontology, and methods of teaching clinical periodontology, including visual and auditory aids.

The next meeting is to be held during the summer of 1956.

NATIONAL HEALTH SERVICE

Superannuation Scheme

Draft Amending and Consolidating Regulations

Draft National Health Service (Superannuation) Regulations, 1955, have been laid before Parliament. Subject to approval by resolution of each House of Parliament they will be made by the Minister of Health to come into effect on Oct. 1, 1955. They consolidate the previous regulations dealing with the scheme, and make a substantial number of amendments, many of which are consequential upon the Local Government Superannuation Act, 1953, and the Local Government Superannuation (Benefits) Regulations, 1954.

The draft regulations contain provisions relating to persons holding more than one appointment simultaneously in the hospital or general practitioner service. They provide that all superannuable service can reckon towards benefit unless there has been a disqualifying break of a year without any superannuable Health Service appointment; that for benefit purposes, a medical or dental practitioner on the list of more than one Executive Council is to be treated as though he were in a single appointment; and that a person who, on giving up one part-time employment at or after the minimum retiring age, ceases to be superannuable in respect of a continuing part-time employment, shall have his superannuation rights in the latter preserved.

SCHOOL DENTAL SERVICE

Treatment for Crooked or Malpositioned Teeth

The extent to which the school dental service should provide facilities for school-children to have treatment for crooked or badly positioned teeth, is the subject of a circular to local education authorities from the Minister of Education, Sir David Eccles. The Minister hopes that this orthodontic treatment will be developed as quickly as possible. He realizes, however, that despite the considerable increase in the number of dental officers in the last two years, many authorities are still having difficulty in providing adequate facilities for ordinary conservative treatment, and he emphasizes that

orthodontic work should not be undertaken at the expense of the normal dental work of the service.

A certain amount of orthodontic work, particularly of the less complex cases, is already undertaken by school dental officers in many areas. More difficult cases are at present referred to specialist orthodontists who prescribe treatment to be carried out under supervision by school dental officers. This system enables a greater number of children to benefit from specialist services, provided the school dental staff is large enough to undertake the additional orthodontic work.

For complex cases, where specialist treatment is required and where no arrangements exist, authorities are asked to consider how best this treatment can be provided; whether by school dental officers with special training; by orthodontists employed by the authority; or by using the hospital and specialist services.

Local education authorities are asked to review their existing arrangements, to formulate their requirements, and to tell Regional Hospital Boards whether their assistance is required or not.

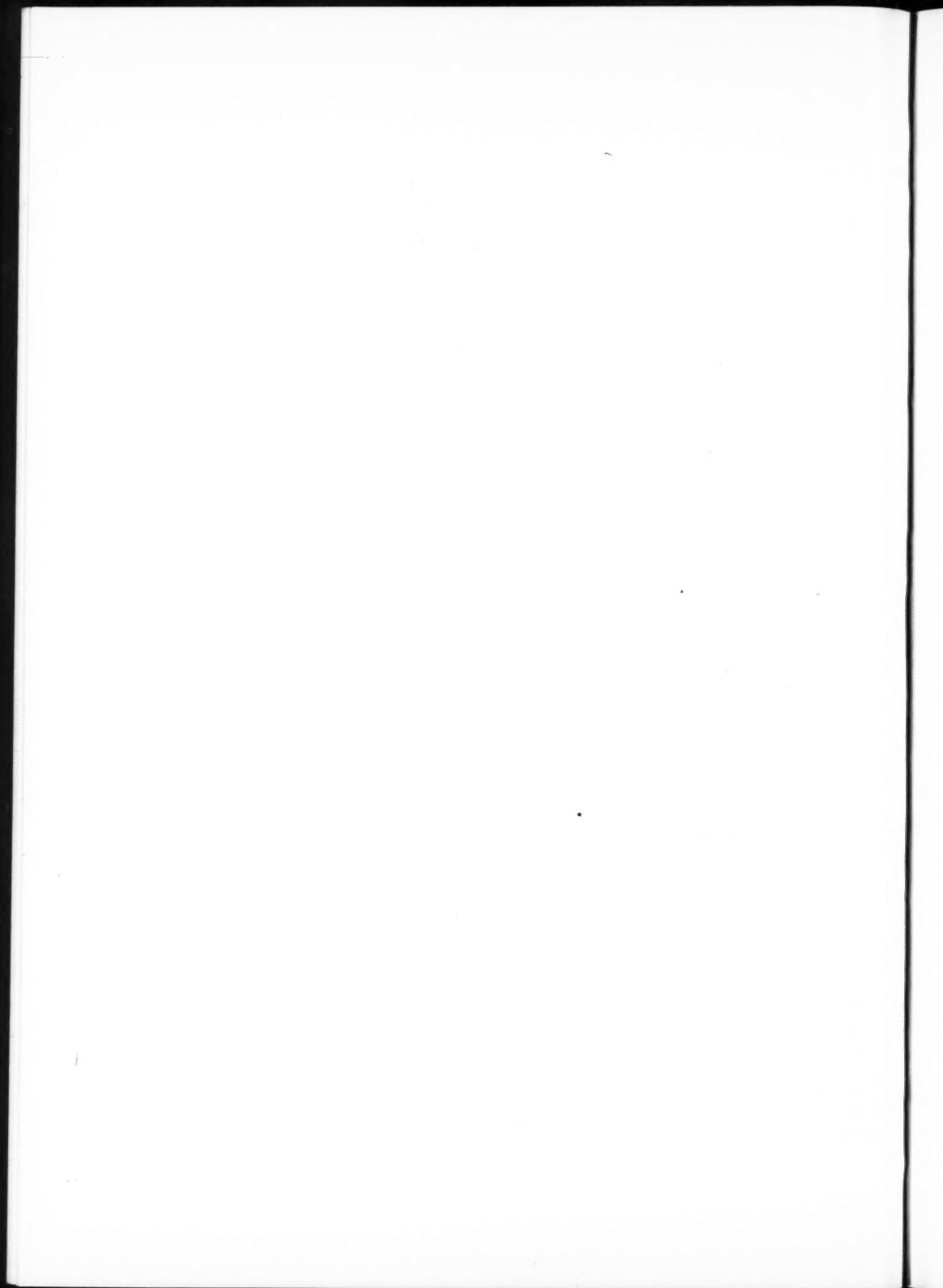
The Minister realizes that in view of the national shortage of suitably qualified dentists it may not be possible in some areas to provide a comprehensive orthodontic service for some years.

A copy of this circular is being sent to hospital authorities together with a memorandum from the Minister of Health, Mr. Iain MacLeod, in which he emphasizes the importance of co-operation in the field of orthodontics between hospital and local education authorities.

MEDICAL GAS—A NEW SAFETY MEASURE

One of the remaining risks involved in the administration of medical gases will be removed when a new British Standard system of non-interchangeable valves for gas cylinders and anaesthetic apparatus is introduced. The principle adopted is very similar to that used with radio valves, whereby spacing of the pins ensures that each type can be inserted only in

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DENTAL PRACTITIONER**



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VOLUME V

SEPTEMBER, 1954—AUGUST, 1955

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the corresponding socket. Applied to gas cylinders, it prevents incorrect connexion of the gas cylinder to the administration apparatus.

The new system is fully described in a revised edition of British Standard 1319—Medical Gas Cylinders and Anaesthetic Apparatus (5s. post free). The system employs the principle of differently spaced pairs of holes in the valves which register with corresponding pins in the connecting part on the administration apparatus.

An equivalent standard is already in operation in the U.S.A. and Canada, and it is also widely used in Australia and Switzerland.

From the coming autumn new equipment of the pin-index type will become available in the U.K., and from the same time manufacturers of gases will make available sufficient new cylinders to meet demands from the users of this new equipment.

The quite separate task of converting the large number of existing anaesthetic apparatus and cylinders cannot be started until about

the autumn of 1956. This interval will be required to manufacture the wider range of special jigs, tools, and conversion kits required; to build up the trained staff and fleet of special equipment vans needed; and to make sure that there will be available an adequate supply of cylinders with the new valves.

It is proposed that priority of conversion be given to hospitals, followed by equipment used by doctors, midwives, dentists, and other professions. The plan will be kept as elastic as possible, and will be adjusted in the light of experience.

The cost of converting cylinders will be borne by the manufacturers of the gases, but the cost of converting apparatus to fit the new type cylinder valves will be the responsibility of the owners of the equipment.

The new system applies only to cylinders having a capacity of 24 cu. ft. or less. Large cylinders are already equipped with valves which make it impossible for the wrong connexion to be made.

LETTER TO THE EDITOR

July 18, 1955

Dear Sir,

Professor Stoy's article on the wastage of dentists is a timely one—and few can quarrel with conclusions derived in a scientific manner from statistics. But even if the present number of practitioners is maintained, and the output of work gradually increases, this does not help our present and immediate problems quickly enough.

No one would call our present dental services adequate—in fact, the school service needs at least double the present number of qualified men and somehow or other we must train workers to educate the parents and children. (The dentist has not sufficient time to do this properly in present circumstances.)

Alternatively, the profession should urge the Ministry of Education to increase the amount of time spent in all schools on simple physiology, hygiene, diet, and oral care. Preferably, these subjects should be included during the last two years at school.

It is probably too late to educate the present young parents, but there might be hope for the future if we get started on the right lines now.

A few years ago, when I suggested the educational aspect to a Principal School Dental Officer, he dismissed it as useless—like knocking one's head against a wall.

Apparently some of our professional colleagues take the attitude that many people are ineducable and unlikely to need anything more than emergency treatment, extractions, and dentures. We are certainly allowing a large proportion of the children to acquire this idea, too.

In these enlightened days one is often appalled to find that many patients who work in canteens, food shops, and bakeries have the most amazingly septic mouths. Should we not, then, try the educational approach if only for our own protection!

Yours faithfully,

EDWARD LINE.

68, Middle Park Road,
Selly Oak, Birmingham 29.

14th CONGRESS OF THE INTERNATIONAL A.R.P.A., Venice, Sept. 5-11, 1955

(Association for Research into Periodontal Diseases)

President: Professor A. J. Held

Headquarters: Hotel Monaco and Grand Canal; Scientific Sessions; Civic Hospital

GENERAL PROGRAMME

Monday, Sept. 5—

9.30 a.m., 2.30 p.m.—2nd Concilium Parodontologicum.

Tuesday, Sept. 6—

10 a.m.—Inaugural Session.

Wednesday, Sept. 7—

8.30 a.m., 2.30 p.m.—Scientific Sessions.

6 p.m.—Civic Reception.

9 p.m.—Gondola trip on Grand Canal.

Thursday, Sept. 8—

Morning—Visits to galleries and museums.

Afternoon—Boat trips on the Grand Canal.

Evening—Festival of the Cinema.

Friday, Sept. 9—

8.30 a.m., 2.30 p.m.—Scientific Sessions.

5.30 p.m.—Administrative Session.

8.30 p.m.—Dinner and Ball.

Saturday, Sept. 10—

8.30 a.m.—Scientific Session.

2.40 p.m.—Excursion by boat to Torcello.

The principal themes are as follows:—

1. *Bruxism* (Karolyi phenomenon). Reporters: Professor Haupe, Dusseldorf; Dr. Dunkin, San Jose, California. Co-reporter: Prof. Zerosi, Milan.

2. *Functional treatment by altering the occlusal height*. Reporter: Prof. Reichborn-Kjennerud, Oslo. Co-reporter: Dr. E. Kiefer, Berlin.

3. *Selective grinding*. Reporter: Dr. Bleadon, San Francisco. Co-reporter: Prof. Held, Geneva.

4. *Epithelial reattachment and curettage*. Reporter: Prof. Becks, San Francisco. Co-reporter: Prof. Miller, New York; Dr. Cross, London.

5. *Geographical pathology of periodontal diseases*. Reporter: Professor Marshall-Day, Boston. Co-reporter: Dr. Jaccard, Geneva.

In addition to these main themes, there will be over forty short communications on a wide

range of aspects of Periodontology, table demonstrations, and films.

Forms for registration for participants are obtainable from the Secretary, Dr. J. Matthey, 2, rue Bartholoni, Geneva.

EXAMINATION RESULTS

University of Glasgow

THE Degree of Bachelor of Dental Surgery has been conferred upon the following:—

Alexander John Neish Abercrombie, 700, Tolleross Road, Glasgow, E.2. John Aitken, 34, Leader Street, Glasgow, E.1. John Fleming Allan, 6, Coronation Street, Wishaw, Lanarkshire. Ian Ferguson Diggins Brown, 20, Elie Street, Glasgow, W.1. Jean Clark Brown, 2, Thorntree Avenue, Burnbank, Hamilton, Lanarkshire. Laurie Symington Campbell, 81, Holeburn Road, Glasgow, S.3. James Hunter Dallas, 18, Beech Avenue, Baillieston, Glasgow. John Walsh Davey, 5, West Fullarton Street, Kilmarnock, Ayrshire. Clifford John Delaney, B.Sc., 1361, Duke Street, Glasgow, E.1. Joseph Docherty, 5, Wester Cleddon's Road, Bishopbriggs, Glasgow. John Allan Campbell Douglas, 39, Greenock Road, Largs, Ayrshire. William Dunlop, 45, Ormonde Avenue, Glasgow, S.4. Alexander Forbes, 18, Harbour Street, Girvan, Ayrshire. Robert Alastair Ferguson Ford, 28, Torridon Avenue, Glasgow, S.1. Abdulsultan Gulamhussein Gably, P.O. Box 745, Nairobi, Kenya. Robert Russell Gardner, 24, Lefroy Street, Coatbridge, Lanarkshire. Stuart Ferguson Kyle, 25, Lugar Drive, Glasgow, S.W.2. James Leishman, 1, Monieburgh Road, Kilsyth, Glasgow. John Brown MacDougall, 993, Sauchiehall Street, Glasgow, C.3. Ronald Douglas Mackellar, 141, Cathcart Street, Greenock. Alexander Gordon Miller, 10, Palmerston Road, Edinburgh. Brian Joseph Murray, 549, Anniesland Road, Glasgow, W.3. Virgilio Bertie Nesti, 18, Highburgh Road, Glasgow, W.2. Robert Paterson Ogilvie, 20, Huntly Avenue, Giffnock, Renfrewshire. George Findlay Bruce Pullar, 81, Armadale Street, Glasgow, E.1. Ralph Robinson, 3, Langside Place, Glasgow, S.1. Robert Ronald Taylor, 15, High Street, Crail, Fife. William Low Wilkinson, 31, Battery Place, Rothesay, Bute. Alexander Harley Young, 1, Edgehill Road, Bearsden, Glasgow.

University of Edinburgh

THE Degree of Bachelor of Dental Surgery has been conferred upon the following:—

Alexander, William Maxwell, Scotland. Auckland, Kenneth Alexander, Scotland. Ballingall-Watson, Norman Ian, Scotland. Bell, Roger, Scotland. Birkett, John Lionel, England. Brady, Kathleen Rosemary, Scotland. Broome, Christine Hope, England. Carrol, Reynold Oshwolde Williamson, Gambia. Fransen, Harry William, Scotland. Gibson, Robin Gordon, Scotland. Jacob, Ruth Angela, England. Johnstone, Alexander, Scotland. Leslie, Kenneth George Niven, Scotland. MacLeod, Donald Norman, Scotland. MacPhee, Iain Torquil, Scotland. Main, James Hamilton Prentice, Scotland. Monvid-Dabrowski, Stanley Ziemovit, Poland. Pallin, James Moultrie, Scotland. Redding, Sydney James, England. Smith, Ronald Thomas, Scotland.

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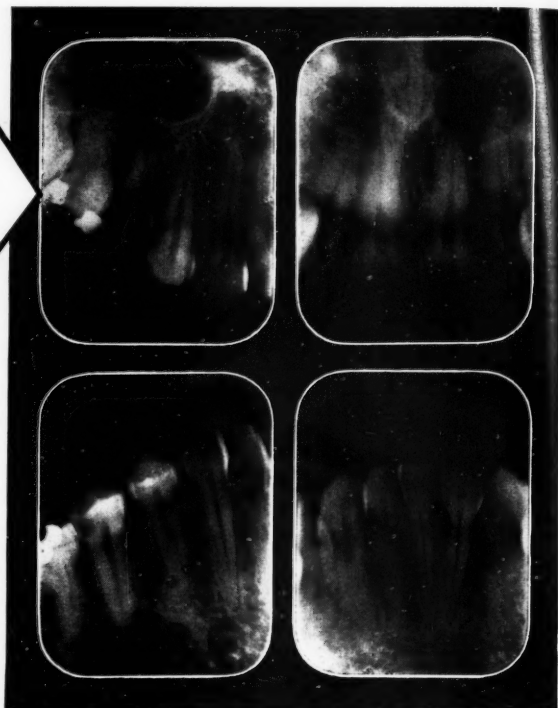
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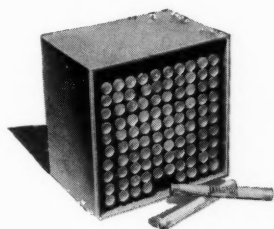
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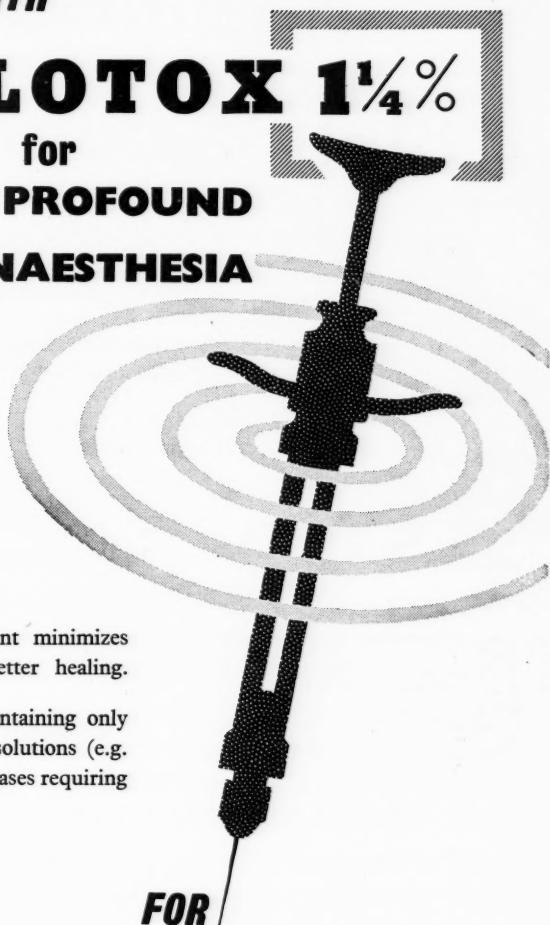
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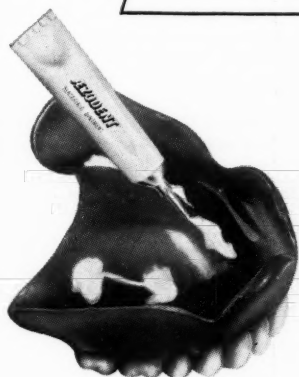
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THIS book, which is modelled on a series of articles in the *Dental Practitioner*, is an attempt to clarify and rationalize the problems of the construction of removable orthodontic appliances; it is not in any sense a guide to diagnosis or treatment planning. The basic principles underlying the action of all types of appliance, whether fixed or removable, are briefly discussed so as to give a picture of the mechanical possibilities inherent in different techniques.

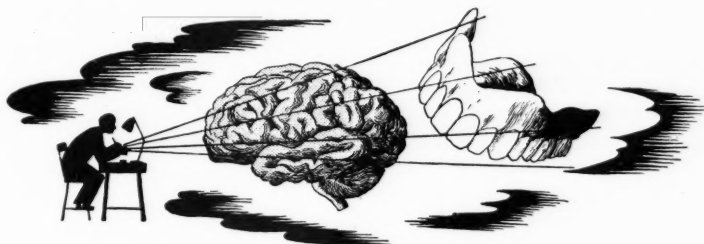
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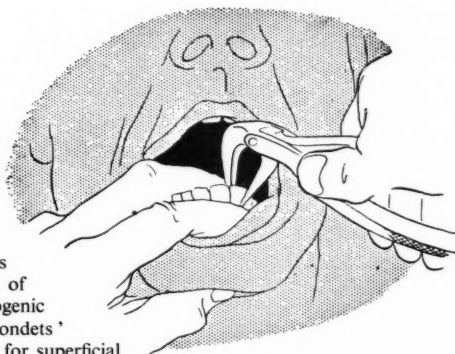
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References. 1. Gale, J. A., *Dent. Record*, 71. 15, 1951. 2. Henschel, C. J. and Lieber, L. *Oral Surg. Oral Med. and Oral Path.*, 5. 155, 1952. 3. Lefkowitz, W. and Venti, V. I. *Oral Surg. Oral Med. and Oral Path.*, 4. 1576, 1951.

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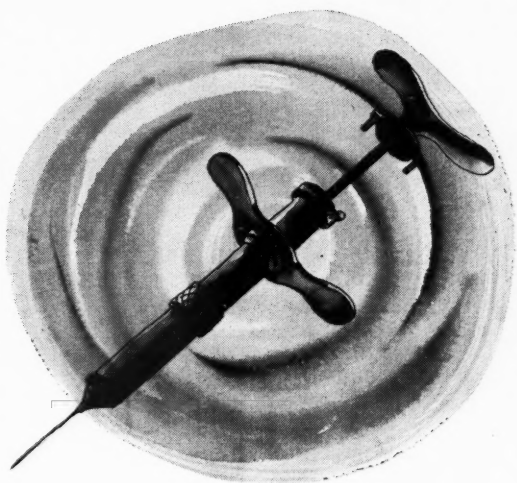
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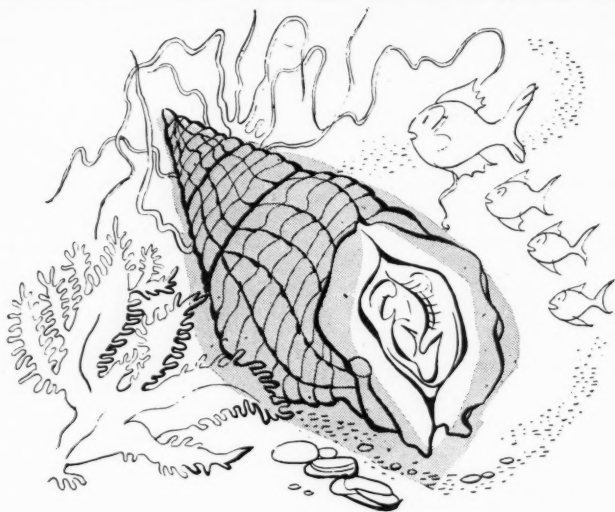
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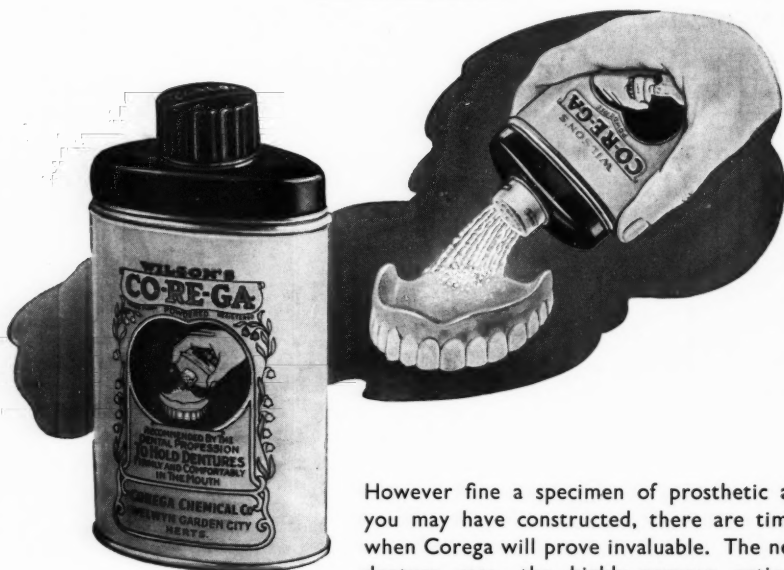
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